JUNE 23, 1934

THE LANCET

Offices: 7, ADAM STREET, ADELPHI, W.C.2.
Telegrams: LANCET, RAND, LONDON. Telephone: TEMPLE BAR 7328 and 7329

No. XXV. OF VOL. I., 1934. LONDON, SATURDAY, JUNE 23, 1934 Pp. 112—Price 1s.
No. 5782. Vol. CCXXVI. Founded 1823. PUBLISHED WEEKLY. Registered as a Newspaper. Annual Subscription: Inland £2 2s. Abroad £2 10s.

NOW READY. 15TH EDITION.

GREEN'S MANUAL OF PATHOLOGY.

73RD YEAR OF PUBLICATION.

Revised and Enlarged by H. W. C. VINES, M.A., M.D., Pathologist to the Charing Cross Hospital.

Pp. xii + 928. With 8 Coloured Plates and 425 Illustrations.

Price 25s.; postage 9d., abroad 1s. 10d.

Baillière, Tindall & Cox, 7 & 8, Henrietta-street, London, W.C.2.

THE TONSILS AND ADENOIDS.
AND THEIR DISEASES: INCLUDING THE PART THEY PLAY IN SYSTEMIC DISEASES.

By IRWIN MOORE, M.B., C.M.

Demy 8vo. 395 pp. 107 Illustrations. Price 21s. net.

"On any question regarding tonsils and adenoids, this exhaustive work by Dr. Irwin Moore must be regarded as the final authority for many a long day to come."—PRACTITIONER.

"Provides an admirable guide, reliable and up to date, on the subject dealt with."—MEDICAL TIMES.

"Should be in the library of the medical student, general practitioner, and the consultant."—MEDICAL WORLD.

Wm. Heinemann (Medical Books) Ltd., 99, Great Russell-street, London, W.C.1

JUST PUBLISHED—FIFTH EDITION—REVISED AND ENLARGED OF

H. WANSEY BAYLY'S

VENEREAL DISEASE

Former editions strongly recommended by the leading Medical Journals of the English-speaking Nations.

Pp. 252. Chapman & Hall, London. Price 10s. 6d.

MODERN TREATMENT IN GENERAL PRACTICE.

Edited by CECIL P. G. WAKELEY, D.Sc., F.R.C.S., F.R.S.E., Editor of the *Medical Press and Circular*.

Pp. viii + 426. With 16 Plates.

Price 10s. 6d.; postage 9d., abroad 1s.

London: Medical Press and Circular, 8, Henrietta-street, W.C.2.

TEXTBOOK OF MEAT INSPECTION.

By R. V. OSTERTAG,

Late Professor in the Veterinary High School, Berlin, Superseding his "HANDBOOK."

ENGLISH EDITION edited by

Col. T. DUNLOP YOUNG, M.R.C.V.S., D.V.S.M., F.R.S.I., Veterinary Inspector for the City of London.

Pp. xii + 744. With Seven Coloured Plates and 250 other Illustrations. Price 45s.; postage 1s., abroad 2s.

Baillière, Tindall & Cox, 7 & 8, Henrietta-street, London, W.C.2.

JUST PUBLISHED. 97 Illustrations (12 in colour)
Crown 8vo. 10s. 6d. net; postage 6d.

ACUTE OTITIS AND MASTOIDITIS IN GENERAL PRACTICE.

A MANUAL FOR PRACTITIONERS AND STUDENTS.

By N. ASHERSON, M.A., M.B., B.S. Lond., F.R.C.S. Eng. Asst. Surgeon, Central London Throat, Nose, and Ear Hosp., &c.

H. K. Lewis & Co., Ltd., 136, Gower-street, London, W.C.1.

JUST PUBLISHED. Price 7s. 6d. net.

GONOCOCCAL INFECTION:
RECENT ADVANCES IN PATHOLOGY, DIAGNOSIS, AND TREATMENT.

By ROBERT V. STORER, M.R.C.S., L.R.C.P.,

With Foreword by

KENNETH M. WALKER, M.A., F.R.C.S.,

in which he writes:

"There are so many text-books that are a rechauffé of other works that it is a relief to read one marked by originality of thought and freedom from conventional views."

John Bale, Sons and Danielsson, Ltd.,

83–91, Great Titchfield-street, London, W.1.

Just Published. 52nd year. 20s. net.; postage 9d.
With 69 plain and coloured Plates and 192 Text Illustrations.

MEDICAL ANNUAL, 1934.

A YEAR BOOK OF TREATMENT AND PRACTITIONERS' INDEX.

Editors: H. LETHEBY TIDY, M.A., M.D. Oxon., F.R.C.P., and A. RENDLE SHORT, M.D., B.S., B.Sc., F.R.C.S.

With the collaboration of 33 well-known Contributors.

John Wright & Sons Ltd., Publishers, Bristol.

FRACTURES.

By MEURICE SINCLAIR, C.M.G., M.B., CH.B. (EDIN.). With an Introduction by Sir ROBERT JONES, Bt., F.R.C.S.

Pp. 550. 337 X-ray photographs, photographs and diagrams. 24s. net.

Constable & Co., Ltd., London.

DISEASES OF THE THYROID GLAND
WITH SPECIAL REFERENCE TO THYROTOXICOSIS.

By CECIL A. JOLL, M.S., B.Sc., F.R.C.S. (Eng.).

Crown 4to. Fully Illustrated. £3 3s. net.

"Mr. Joll has presented his fellow practitioners and students with a monumental volume. They need not trouble to search the literature published up to the time this volume went to press, for they will find everything relevant within its covers."
—BRITISH JOURNAL OF SURGERY.

William Heinemann (Medical Books) Ltd., 99, Great Russell-street, London, W.C.1.

NOW READY. Pp. 491, with 229 Illustrations. Price 30s.; postage 9d., abroad 1s.

HISTOPATHOLOGY OF THE PERIPHERAL AND CENTRAL NERVOUS SYSTEM.

By G. B. HASSIN, M.D.,

Professor of Neurology, University of Illinois.

Baillière, Tindall & Cox, 7 & 8, Henrietta-street, London, W.C.2.

Five New Books

FORENSIC MEDICINE

A TEXT-BOOK FOR STUDENTS AND PRACTITIONERS

By SYDNEY SMITH, M.D., F.R.C.P., Regius Professor of Forensic Medicine, University of Edinburgh
New (4th) Edition. 170 Illustrations. 24s.

MEDICAL ELECTRICITY for Massage Students
By HUGH MORRIS, M.D., D.M.R.E. 103 Illustrations. 15s.

RECENT ADVANCES IN PATHOLOGY
By GEOFFREY HADFIELD, M.D., F.R.C.P., and L. P. GARROD, M.D., M.R.C.P. New (2nd) Edition. 69 Illustrations. 15s.

MEDICINE: Essentials for Practitioners and Students
By G. E. BEAUMONT, D.M., F.R.C.P. New (2nd) Edition. 61 Illustrations. 21s.

DISEASES OF THE EYE
By SIR JOHN HERBERT PARSONS, C.B.E., D.Sc., F.R.C.S., F.R.S. New (7th) Edition. 21 Plates (20 in Colour) and 353 Text-figures. 18s.

London: J. & A. Churchill Ltd., 40 Gloucester Place, Portman Square, W.1

Elixir Bromo-Valerianate (Gabail)

exhibits a desirable sedative and soporific effect in all cases of

NERVOUS INSOMNIA

gently and safely inducing natural sleep without the attendant risk of the barbituric derivatives.

Soporific dose: Two tablespoonfuls at bedtime.

Samples on request

THE ANGLO-FRENCH DRUG CO. LTD., 11 & 12, Guilford Street, LONDON, W.C.1

LESLIES ZŌPLA STRAPPING
(Zinc Oxide Plaster)

Powerful grip—no slipping

Thoroughly pliable

Consistently good

Strong White and Flesh Cloths, White Felt, etc. Samples on request

ZŌPLA—BAND
(Elastic Plaster Bandage)

Excellent for varicose veins, ulcers, sprains, etc., and where an elastic cloth is desirable

All widths from 1 inch

Cream and Flesh colour

Manufactured by LESLIES LTD., High St., Walthamstow, London, E.17

Valentine's Meat-Juice

For **Quieting** the **Irritable Stomach** in **Pregnancy**, for **Rapidly Restoring** the **Vital Forces** in **Hemorrhage**, for **Sustaining** and **Strengthening** in **Long** and **Exhausting Labor**, **Valentine's Meat-Juice** is Extensively employed in

Obstetrical Practice.

Dr. M. DeCristoforis, *Prof. Lecturer on Midwifery and Gynæcology, Milan, Italy:* "The preparation, VALENTINE'S MEAT-JUICE, has been successfully used by me in a serious case of acute puerperal hemorrhage. The patient could take no food or drink. VALENTINE'S MEAT-JUICE was completely retained and restored very promptly the strength and the cardiac impulsion."

Dr. E. Duleroy, *Physician Accoucheur to the International Hospital, Paris, France:* "A young accouchée, in a very weak condition and suffering from stomach trouble, could retain no food, but was able to assimilate VALENTINE'S MEAT-JUICE given at first in small doses. An improvement was quickly visible, the patient recovered her strength and is today in good health."

For Sale by European and American Chemists and Druggists.

VALENTINE'S MEAT-JUICE COMPANY,
A 21 **RICHMOND, VIRGINIA, U. S. A.**

JUNE 23, 1934

THE LANCET

A JOURNAL OF BRITISH AND FOREIGN MEDICINE, SURGERY, OBSTETRICS, PHYSIOLOGY, CHEMISTRY, PHARMACOLOGY, PUBLIC HEALTH, AND NEWS

No. 5782 LONDON, SATURDAY, JUNE 23, 1934 CCXXVI

CONTENTS

THE WHOLE OF THE LITERARY MATTER IN THE LANCET IS COPYRIGHT

ADDRESSES AND ORIGINAL ARTICLES

Praise and Dispraise of Doctors. By ROBERT HUTCHISON, F.R.C.P... 1323

Infantile Diarrhœa with Special Reference to Dehydration and Otitis Media. By MONTAGUE MAIZELS, M.R.C.P., and JEAN SMITH, M.R.C.P. 1329

The Blood Sedimentation Rate and the Plasma Proteins. By G. R. P. ALDRED-BROWN, B.M., and J. M. H. MUNRO, D.Sc., L.R.C.P.—(*Illustrated*) 1333

The Protective Action of "Bayer 205" Against the Trypanosomes of Man. By H. LYNDHURST DUKE, M.D. 1336

CLINICAL AND LABORATORY NOTES

Streptococcal Septicæmia treated with Antitoxin and Transfusion. By G. GREGORY KAYNE, M.R.C.P.—(*Illustrated*). 1338

Intestinal Obstruction. By TINA GRAY, M.B.—(*Illustrated*) 1339

MEDICAL SOCIETIES

National Association for the Prevention of Tuberculosis: National Tuberculosis Scheme .. 1340

REVIEWS AND NOTICES OF BOOKS

Investigations into the Causes of Mental Deficiency. By H. O. Wildenskov, M.D. ... 1342

Diseases of the Eye. By Sir J. Herbert Parsons, F.R.C.S., F.R.S. 1342

Le sinus carotidien et la zone homologue cardio-aortique. By Prof. C. Heymans, Prof. J.-J. Bonckaert, and P. Regnius..... 1343

EUGENICS IN PRACTICE

VII.—The Political Outlook 1343

LEADING ARTICLES

SUICIDE..... 1345

DIURNAL INCONTINENCE IN WOMEN 1345

A MIRROR FOR DOCTORS 1346

ANNOTATIONS

Registration of Foreign Doctors 1348

Medical Museums..... 1347

Production of Artificial Pyrexia 1348

Hæmatoporphyria..... 1348

Mental Disorder associated with Pregnancy 1349

Running and Walking .. 1349

Immunisation of Cattle Against Tuberculosis .. 1350

The Tale of St. Thomas's Hospital 1350

Von Gierke's Disease 1351

Vitamin-A Deficiency and the Teeth 1351

"Living Dangerously" .. 1352

A Pioneer of Ambulance 1352

PROGNOSIS

VII.—Prognosis of Staphylococcal Infections of the Skin. By RUPERT HALLAM, M.D. 1353

CORRESPONDENCE

"New Method of Local Anæsthesia for Abdominal Operations" (Dr. Max Baruch) 1366

Histamine in Rheumatism (Dr. A. A. Bisset)..... 1367

Thiol-histamine (Mr. J. E. R. McDonagh, F.R.C.S.)..... 1367

District Almoners (Dr. Geoffrey Hale)..... 1367

Continental Anglo-American Medical Society (Dr. Tom A. Williams) 1367

THE SERVICES

Royal Naval Medical Service.—Royal Army Medical Corps.—Short Service Commissions in the R.A.M.C..... 1354

SPECIAL ARTICLES

Voluntary Hospitals Conference. — Out-patient Departments.—Function of the Cottage Hospital.—The Hospital and its Architect.—Coöperation between Voluntary and Municipal Authorities.. 1355

The Committee against Malnutrition: Legal and Administrative Aspects 1358

Medicine and the Law: Problems of Miners' Nystagmus.—Two Disablements from One Disease 1360

London and Counties Medical Protection Society 1361

Ireland: Financial Position of the Irish Hospitals 1361

Paris: The Acrodynia of Yesterday and To-day 1362

PANEL AND CONTRACT PRACTICE

An Election without Enthusiasm.—Record of the London Panel Committee 1365

PUBLIC HEALTH

Swimming Baths and Health: Treatment of Bath Water.—A Hop-picking Dispute Settled 1363

Infectious Disease in England and Wales.. 1365

PARLIAMENT

Notes on Current Topics: Hospitals and Treatment of Road Accidents 1372

House of Commons: Cheap Milk-supplies in Glasgow. — Malaria in Bechuanaland.—Silicosis.—Water-supplies in Scotland.—Veterinary Inspection of Cattle.—Gas Detectors in Mines 1372

OBITUARY

Michael George Foster, F.R.C.P.—(*With portrait*) 1368

Henry Watson Smith, M.D.—(*With portrait*).. 1368

MEDICAL NEWS

University of Cambridge 1369

Royal College of Surgeons of England 1369

University of Bristol 1370

Scarborough Hospital.... 1367

Society of Medical Officers of Health 1370

Conference on Vitamin Standardisation 1370

Medical Women's Federation 1370

Hoffman Library for Cancer..... 1370

Harveian Society: Buckston Browne Dinner 1370

British Homœopathic Society 1371

International Congress of Radiology..... 1371

Birmingham Skin Hospital..... 1371

British Health Resorts Association..... 1371

Rockefeller Medical Fellowships 1371

Epsom College 1371

Lady Tata Memorial Scholarships 1371

Pay-Beds at London Hospital..... 1371

NOTES, COMMENTS, AND ABSTRACTS

Cutaneous Wounds Joined without Suture.—(*Illustrated*) 1375

Lepers in Malaya..... 1375

Trained Nurses for Patients of Small Means 1375

London Out-patient Time-table 1375

Health in Pregnancy 1376

The Danger of Polished Floors..... 1376

The Hospital and the "Dogs" 1376

Vacancies 1374

Appointments 1374

Medical Diary 1376

Births, Marriages, Deaths 1376

THE LONDON AND COUNTIES MEDICAL PROTECTION SOCIETY LIMITED

(FOUNDED 1892)

President: Sir JOHN ROSE BRADFORD, Bart., K.C.M.G., C.B., C.B.E., M.D., F.R.C.P., F.R.S.

Trustees for the Reserve Fund:

Rt. Hon. LORD DAWSON, P.C., G.C.V.O., K.C.B., M.D., P.R.C.P. Sir JOHN ROSE BRADFORD, Bart., K.C.M.G., C.B., C.B.E., M.D., F.R.C.P., F.R.S. Sir SQUIRE SPRIGGE, M.D., F.R.C.P., F.R.C.S.

The Society was founded for the following purposes: To protect, support, and safeguard the character and interests of legally qualified Medical and Dental Practitioners; to advise and assist Members of the Society in matters affecting their professional character and interests; and to indemnify them in regard to actions, etc., undertaken on their behalf.

The Society is insured with Lloyd's Underwriters to an unlimited extent in respect of all adverse costs and damages awarded against Members in any action which the Society undertakes on their behalf.

Annual Subscription: £1. Entrance Fee: 10s. Assets exceed £80,000.

No entrance fee to those joining within 12 months of registration.

Full particulars and forms of application for membership from the Secretary, Victory House, Leicester Square, W.C.2.

Telephone: GERRARD 4814.

TENTH EDITION. Fully Revised. Crown 8vo. 700 pages.
With 179 Illustrations and Coloured Diagrams of Surface Markings. 17s. 6d. *net; postage 9d.*

SYNOPSIS OF SURGERY

By ERNEST W. HEY GROVES, M.S., M.D., B.Sc.(Lond.), F.R.C.S.(Eng.),
Emeritus Professor of Surgery, University of Bristol; Consulting Surgeon, Bristol General Hospital.

"Every edition has enhanced its reputation. The tenth edition is up to date; no omissions of any account are noticeable. This synopsis can be heartily recommended."—LANCET.

Crown 8vo. 624 pp. With 606 Illustrations. 17s. 6d. *net; postage 9d.*

SYNOPSIS OF SURGICAL ANATOMY

By ALEXANDER LEE McGREGOR, M.Ch. (Edin.), F.R.C.S. (Eng.),
Lecturer on Surgical Anatomy, University of the Witwatersrand.

With a Foreword by SIR HAROLD J. STILES, K.B.E.

"In no other book on the subject can be found such a mine of information."—JOUR. OF ANATOMY.
"Appeals not only to the student but also to those practising and teaching surgery."—EDIN. MED. JOUR.

Bristol: JOHN WRIGHT & SONS LTD. [*New Illustrated Catalogue free*] London: SIMPKIN MARSHALL LTD.

CONSTABLE'S MEDICAL BOOKS

NEW EDITION. MODERN METHODS OF
FEEDING IN INFANCY AND CHILDHOOD
By DONALD PATERSON, B.A., M.D., F.R.C.P., and J. FOREST SMITH, F.R.C.P. 7s. 6d. net.

A TEXT-BOOK OF
PULMONARY TUBERCULOSIS
By R. C. WINGFIELD, F.R.C.P. 18s. net.
British Medical Journal.—"The practitioner will be well advised to turn to such a book as that of Dr. Wingfield."

THE LABORATORY IN SURGICAL PRACTICE
By E. C. DODDS, M.V.O., M.D., & LIONEL E. H. WHITBY, C.V.O., M.D. Illustrated. 8s. 6d. net.
The Lancet.—"We commend the book both to working surgeons and to members of laboratory staffs."

FRACTURES
By MEURICE SINCLAIR, C.M.G., M.B., B.Ch. (Edin.), Major R.A.M.C. (Ret.). With an Introduction by the late Sir ROBERT JONES. Illustrated. 24s. net.

Constable's List of Books on Medicine and Surgery sent post free on application.
CONSTABLE & CO. LTD., 10 & 12 ORANGE STREET, LONDON, W.C.2

OSTEOLOGY
ANATOMICAL MODELS
DIAGRAMS, CHARTS
FOR LECTURES
H. K. LEWIS & CO. LTD.
136, GOWER STREET, LONDON, W.C.1
SPECIAL DEPARTMENT

IN LIVER THERAPY
PERNAEMON FORTE
1 c.c. has the activity of 1000 to 2500 gm. FRESH LIVER per cc.
ORGANON LABORATORIES
1 Gordon Sq., London, W.C.1

CATALOGUE of SECONDHAND SURGICAL INSTRUMENTS, OSTEOLOGY MICROSCOPES POST FREE.

Students' Half Sets of Osteology. Articulated Skeletons and Disarticulated Skulls
MILLIKIN & LAWLEY, 67 & 68, CHANDOS ST., STRAND, W.C.2.
(Adjacent to Charing Cross Hospital Medical School.) Telephone: Temple Bar 2266

JENNER INSTITUTE Glycerinated VACCINE LYMPH
PREPARED IN ACCORDANCE WITH THE THERAPEUTIC SUBSTANCES REGULATIONS (BRITISH PRODUCT)
Telephone: BATTERSEA 1347.
SINGLE VACCINATION TUBES - - - - 3d. each; 2s. dozen. Postage 1½ extra.
LARGE TUBES (EXPORT Only) sufficient for 5 vaccinations, 1s. 3d. each; 11s. dozen.
SOLE AGENTS FOR SCLAVO'S ANTI-ANTHRAX SERUM.
Telegrams: "JENVACCER, BATT, LONDON" (3 words).
JENNER INSTITUTE FOR CALF LYMPH LTD., 73, Church Road, Battersea, S.W.11.

ADDRESSES AND ORIGINAL ARTICLES

PRAISE AND DISPRAISE OF DOCTORS*

BY ROBERT HUTCHISON, M.D., F.R.C.P. Lond.
CONSULTING PHYSICIAN TO THE LONDON HOSPITAL

WE are met to perpetuate the memory of Sir John MacAlister. Although not himself a medical man MacAlister did a great work for our profession by the leading part he took in the amalgamation of the scattered medical societies of London into the great unit now known as the Royal Society of Medicine, and it is most just that we should hold his name in grateful remembrance. But MacAlister was a librarian before he became secretary to the new Society which he brought into being, and to the end of his life he was keenly interested in literature. It is perhaps not inappropriate, therefore, that I should have chosen for this lecture a subject which belongs more to the domain of letters than to that of medicine—namely, a consideration of "Praise and Dispraise of Doctors" throughout the ages. It might be thought that this is an otiose task, but I hope to be able to show that it is justified, for it is always interesting, and may be amusing, to see ourselves through the eyes of others. It is instructive also, and possibly corrective, to learn what, in the opinion of the laity, are our chief faults and what our virtues and merits.

Medical Proverbs

We may begin by glancing at the things said about doctors and their work in popular proverbs. One must not, of course, take proverbial wisdom too seriously, for it is easy to quote proverbs that are mutually contradictory, but none the less a proverb usually embodies one aspect of truth, or what the populace from its experience believes to be the truth, for otherwise it would never have obtained general currency. Now the healing art and its practitioners come home so much to the business and bosoms of men that there are naturally many medical proverbs A collection of them was published [1] some years ago and several are to be found in any dictionary of phrases, most of them, I regret to say, uncomplimentary. Here are a few examples taken from various countries:—

He who has killed a thousand persons is half a doctor.—(*Tamil proverb.*)

When you call the physician, call the judge to make your will.—(*German.*)

The doctor is often more to be feared than the disease.—(*French.*)

If the doctor cures the eye sees it; if he kills, the earth hides it.—(*Scottish and Portuguese.*)

God heals, and the physician hath the thanks.—(*Old proverb.*)

These, it will be observed, bring against doctors the accusation which we shall find to be very common throughout the ages: that they kill more than they cure, and that when a patient does recover it is Nature that deserves the credit. On the other hand, as showing the contradictory nature of proverbs, we have this: "A half doctor near is better than a whole one far away." More in harmony with professional views is the French and Italian saying, "A surgeon should be young; a physician old," and it might well be considered when fixing the retiring age for medical and surgical members of a hospital staff. As a corollary to it we find: "A young physician makes a lumpy churchyard"—but as to what an old surgeon makes proverbial wisdom is silent. The most sweeping condemnation, however, is the saying in the Talmud, "The best of doctors is ripe for Hell." There is nothing half-hearted about this, and I had hoped that it really referred to doctors of the Law, but I am told by my learned friend, Dr. W. M. Feldman, that it is indeed medical doctors who are thus denounced.

The Ancient Writers

Proverbs are usually anonymous—the wisdom of many, as it has been said, embodied in the wit of one—and belong to no particular age or country; but I turn now to the considered opinions expressed by writers of more or less eminence, mostly laymen, at different periods of history. We may begin with the Ancients, meaning by that those who wrote before the fall of the Roman Empire. Even in the earliest writings mention is to be found of the doctor and his work, but so long as the functions of the priest and the physician were more or less identical criticism was probably restrained by motives of piety or of prudence. In the Scriptures there are but few references to medicine, although we have the well-known panegyric of Jesus, the son of Sirach, in Ecclesiasticus: "Honour a physician with the honour due unto him. . . The skill of the physician shall lift up his head: and in the sight of great men he shall be in admiration. Then give place to the physician for the Lord hath created him," and so on. But even here one finds a sting at the end: "He that sinneth before his Maker let him fall into the hand of the physician." Then there is that poignant verse in St. Mark about the woman with an issue of blood which is as true of many patients to-day as it was 2000 years ago: "And had suffered many things of many physicians, *and had spent all that she had*, and was nothing better but rather grew worse," an oblique condemnation of our profession which might well be pondered by the gynæcologists. But it is to the classical writers of Greece and Rome that we must chiefly look for criticism, for it was only after the rise of Greek medicine that the physician began to attract much attention. Four centuries before Hippocrates, however, one finds Homer paying us a handsome compliment in the lines (I quote from Pope's translation):—

> A wise physician skill'd our wounds to heal,
> Is more than armies to the public's weal.

Æsop (c., 570 B.C.), on the other hand, in some of his fables is decidedly disparaging, and Heraclitus (6th Century B.C.) goes so far as to say that "*if the doctors are excepted*—there is no one more stupid than the grammarian." Menander (342–290 B.C.), too, makes a shrewd hit when he exclaims, "A prattling physician is another disease to a sick man!" The same might be said with even more truth nowadays of a prattling nurse. Philemon (360–262 B.C.) brings against doctors a charge which the laity are never tired of repeating: "Doctors order for their patients a strict régime; when they themselves are ill in bed they do everything that they have forbidden to others," and Mimnermos (7th Century B.C.) has an interesting comment on prognosis: "There are doctors who to show their worth and to be sure of an excuse make bad seem worse and of the worse make a disaster," which, it is to be feared, is true of some of us even to-day.

Plato (429–347 B.C.) has not much to say about

* The eighth annual MacAlister Lecture delivered at the National Temperance Hospital on June 21st.

[1] Brit. Med. Jour., 1911, ii., 1482.

medicine, but he speaks of "the wise physician who is worth many another man," and expresses the curious opinion that doctors "had better not be in robust health, and should have had all manner of diseases in their own persons," a dictum for the second part of which there is more to be said than for the first. In the Greek Anthology, a collection which covers nearly fifteen centuries, there are many medical epigrams, some laudatory others satirical, but their praise and dispraise mostly refers to individuals and not to the profession as a whole, so they need not be quoted here. They have been carefully studied by Dr. J. D. Rolleston.[2]

Roman writers are more bitter in their comments than the Greeks. The reason for this no doubt was that at the time of the Early Empire most of the physicians in Rome were Greeks whom the Romans despised, and who were not only ignorant but apt to give themselves airs. Their nationality led to the whole profession being looked down upon, just as in the Middle Ages doctors were often despised because so many of them were Jews. It must be remembered, too, that a large number of the Greek physicians in Rome belonged to the slave class. The elder Pliny (A.D. 23–79), particularly, had almost as great a "down" upon doctors as Petrarch had thirteen centuries later. In his Natural History,[3] Pliny speaks of the profession as follows:—

> The art of Physicke hath this peculiar gift and priviledge alone, that whosoever professeth himselfe a Physitian, is straitwaies beleeved, say what he will and yet to speak a truth, there are no lies dearer sold or more dangerous than those which proceed out of a Physitian's mouth.
>
> There is no law or statute to punish the ignorance of blinde Physitians, though a man lost his life by them: neither was there ever any man known, who had revenge or recompence for the evill intreating or misusage under their hands. They learne their skill by indangering our lives; and to make proofe and experiments of their medicines, they care not to kill us. In a word, the Physitian only, if he murder a man, so clear he goeth away with impunity, that none so hardy as once to twit or challenge him for it: but say that one be so bold as to charge them with any untoward dealing; out they cry presently upon the poor patients, they are found fault with their unrulinesse, distemperature, wilfulnesse, and I know not what: and thus the sillie soules that be dead and gone, are shent (put upon their trial), and bear away the blame.
>
> But for these Physitians, who are the judges themselves to determine of our lives, and who many times are not long about it, but give us a quick dispatch and send us to heaven or hell; what regard is there had, what inquiry and examination is made of their quality and worthiness?
>
> Is there any trade or occupation goeth beyond it for poisoning? What is the cause of more gaping and laying wait after wills and testaments, than this? What adulteries have beene committed under the colour hereof, even in Princes' and Emperors' palaces?
>
> I mean not to say ought of their extreme avarice; of the merchandise, spoile, and havocke that they make when they see their patients in danger of death, and drawing to their end; nor how high they hold (as it were in open market) the easement and releafe of the sicke man's paine, whiles he is under their hands; ne yet what pawnes and pledges they take as earnest of the bargaine, to dispatch the poore Patient out of the way at once; and lastly, of their hidden secrets and paradoxes, which forsooth they will not divulge abroad, but for some round summe of money.

There is no reason to doubt that these strictures were deserved by many of the doctors of his day. Martial and Juvenal, also, often exercised their wit at the expense of the profession. It is unnecessary to quote from them, but I should just like to mention one of Martial's epigrams as it shows that clinical clerks were much the same in the first century as they are now:—

> I'm ill. I send for Symmachus; he's here,
> An hundred pupils following in the rear:
> All feel my pulse, with hands as cold as snow:
> I had no fever then—I have it now.

Quintilian (A.D. 40–118) had no faith in doctors and says that medicine "serves only to keep us hopeful." He advises his readers to "put no trust in the hopes of physicians." His contemporary, Petronius Arbiter, thought, as many have done since, that a "physician is but a consoler of the mind." Plotinus (205–270) is more sweeping when he denounces medicine as "the chief of errors," whilst Flavius Valens (328–378) contents himself with the simple recommendation: "Keep the physician from your door as long as you can."

Mediaeval Criticisms

After the fall of the Roman Empire in 476 came the Dark Ages which lasted for a thousand years. It was a time during which medicine made little progress, though in justice it must be remembered that it saw the foundation of the great Medical School of Salerno and the establishment of the first rudimentary hospitals for the sick. There was an improvement in the knowledge of drugs due to the Arabians, but Roger Bacon (1214–1294) would not even admit this of the practitioners of the day, for he says[4] that "medical men are ignorant of simple medicine and at the mercy of apothecaries. In compound medicine they go entirely astray... They don't learn to know the drugs they use nor their prices."

The qualified "leech" of the Middle Ages was certainly not a safe doctor. His knowledge, such as it was, was derived almost entirely from Arabian commentaries on the writings of Hippocrates and Galen and he had little or no practical training. A portrait of what was probably a favourable specimen of the profession is drawn by Chaucer in his well-known description of the "Doctur of Phisik" in the "Prologue to the Canterbury Tales," the chief features in the picture being the doctor's belief in astrology, his knowledge of the classical and Arabian authors, his spare but nourishing and digestible diet, his scepticism ("his studie was but litel on the Bible"), his fine dress, and his love of money. For a balanced opinion from a cultured layman about doctors in the 12th century we may go to John of Salisbury (1118–1180):—

> The theoretical physicians do what concerns them, and for love of you will even go further. You can get from them information as to the nature and causes of particular phenomena, they are judges of health, of sickness, and of the mean state. Health, so far as words go, they provide and preserve, and as concerning the mean state they bid one incline in the direction of health. Of sickness they foresee and declare the causes, and lay down its beginning, its continuance, and its decline. What more shall I say? When I hear them talk I fancy that they can raise the dead and are in no way inferior to either Æsculapius or Mercury.
>
> And yet with all my admiration I am much troubled at one matter, and that is they are so singularly at variance in their discussions and in the opinions which are drawn from them. For this one thing I do know, that contraries cannot both be true at the same time.
>
> Again, what shall I say about the practising physicians? God forbid that I should say anything bad about them! since for my sins I fall only too often into their hands. They should rather be soothed by politeness than angered by words, and I do not wish that they should treat me hardly, nor could I endure all the evils about which they

[2] Proc. Roy. Soc. Med., 1914, vol. vii. (Sect. of History of Medicine), pp. 3–13 and 30–56.
[3] Book XXIX. Chap. I. Trans. Philemon Holland.
[4] De Erroribus Medicorum, trans. A. G. Little.

constantly talk. I would rather say with blessed Solomon "All medicine is from the Lord, and he that is wise will not despise it."

Nor is anyone more useful or more necessary than the physician so that he be faithful and full of foresight. For who can say enough in his praise who is the craftsman of health and the begetter of life in that he takes after the Lord and stands in his place, for that health which the Lord gives as a Prince, the physician, as steward and minister, administrates and dispenses.

It is of little moment if some physicians sell an imaginary benefit, and that they may appear the more honest take no fee before the patient is well. But such are dishonest in that they give themselves the credit for a recovery which is due to time, or rather to the gift of God; for it is due to God and to the natural powers of his constitution that the sick man is raised up. Few are they who act in this way, for you will always hear physicians advising one another as follows:—"Take your fee while the patient still feels ill."

Perhaps you look for me to say, what the common people say, that physicians are the class of people who kill other men in the most polite and courteous manner. Well, you will be disappointed; God forbid that I should do them this injury!

The *popular* opinion two centuries later was expressed succinctly by William Langland (?1330–1400) in Piers the Plowman:—

> For mortherers aren mony leches
> Lorde them amende!

whilst the view of the learned is given by Poggio Bracciolini (1380–1459), when he says flatly in his "Disputation upon the Law and Medicine": "Jurisprudence and Medicine have this in common that they are humiliating to contemplate."

The most violent mediaeval opponent of medicine, however, was Petrarch, who paid the profession the compliment of devoting four books of invectives to it. I quote from a letter to the Pope which formed the preface to the first of these books [5]:—

> I know that your sick bed is continually besieged by physicians, a fact which is my chief cause of terror, for they disagree of set purpose, and even he who can bring forth nothing new is ashamed to follow in the footsteps of another.
>
> Neither is there any doubt (as Pliny gracefully says) that they are always hunting after renown for some novelty and so traffic in our lives. Also in this art alone does it happen that a man is taken at his own valuation, and that anyone who holds himself out as a physician is at once accepted as such; but although in no form of fraud is there greater danger, yet we do not regard it, so great is the attraction of a man's own particular delusion. Besides, there is no law to punish human ignorance, no exemplary capital penalty; they learn by our danger and gain experience through our death. The physician alone can kill a man with absolute impunity.
>
> Therefore I implore you, choose one out of the many who surround you, not on account of his eloquence, but as being conspicuous for his knowledge and trustworthiness; for now, forgetful of their own profession, they have dared to come forth from their lairs and seek the grove of the poet and the rhetorician's field of action, and, not with any idea of healing, but merely to gain a dialectical advantage, they surround the beds of our unhappy sick and dispute with mighty bellowings. But my pen has carried me far beyond the limits which I had set myself, so let me here make an end, by telling you to shun the physician who is eminent not for his knowledge, but solely for his powers of speech, as you would a lurking assassin or a poisoner.

The last sentence reminds one of Osler's dictum that there are only two kinds of doctors—those who practise with their brains and those who practise with their tongues.

[5] John of Gaddesden: H. P. Cholomeley. Oxford, 1912.

In another letter the Italian poet says [6]:—

> A celebrated doctor said one day in my presence: "In detracting from the art to which I am indebted for so much wealth and so many clients, I know that I lay myself open to be called ungrateful, but truth must be upheld before everything else. I believe and I frankly say and maintain that, if a hundred or a thousand people, all of the same age, of the same constitution and habits, were suddenly seized by the same illness, and one half of them were to place themselves under the care of doctors, such as they are in our time, whilst the other half intrusted themselves to Nature and to their own discretion, I have not the slightest doubt that there would be more cases of death amongst the former, and more cases of recovery among the latter." Another doctor, even more famous and learned, with whom I had one day a confidential talk, candidly and prudently answered my question why he did not abstain from the food he forbade others, by saying: "My friend, if a doctor did himself what he advises others to do or bade them do the same as he does, he would either suffer in health or in estate."

It will be evident from all this that our profession was not very popular, and probably deservedly not, throughout the Middle Age.

Renaissance Views on Medicine

With the rebirth of learning in the middle of the 15th Century there came fresh criticism of the ignorance of many doctors, and the Renaissance writers found in the profession a ready butt for their agile wit. Erasmus (1452–1536), however, as was natural in a friend of Linacre, has some complimentary things to say:—

> Antiquity rightly both believed and proclaimed that no reward worthy enough can be paid to a skilled and trustworthy doctor.
>
> The theologian makes men repent of their sins, but it is owing to the doctor that there is anyone to repent. It is vain to be a physician of souls if the soul for whom the antidote was prepared has already fled.
>
> We owe gratitude to those who drive off the enemy who flies at our throats; are we not more indebted to the doctor who fights daily for our safety against forces hostile to life?—(*Declamatio in laudem artis medicae.*)

Savonarola also is kindly, but it is well known that he had little sympathy with the Renaissance spirit:—

> The physician that bringeth love and charity to the sick, if he be good and kind and learned and skilful, none can be better than he. Love teacheth him everything, and will be the measure and rule of all the measures and rules of medicine.

There are in Montaigne's (1533–1592) Essays many references to Medicine and doctors which show on the whole his broad tolerance. I quote from Florio's translation:—

> As for me, I honour physitians, not according to the common received rule, for the necessitie sake (for to this passage another of the prophets may be alleaged who reprooved King Asa; because he had recourse unto physitians) but rather for love I beare unto themselves; having seene some, and known diverse honest men amongst them, and worthy all love and esteeme. It is not them I blame, but their arte; yet doe I not greatly condemne them for seeking to profit by our foolishnesse (for most men do so) and it is a thing common to all worldlings.—(*Of the Resemblance between Children and Fathers.*)

He repeats, however, the old gibe that doctors don't practise what they preach:—

> So do our Physitians, who, whilst they tie their patients to a strik't diet of a panada or a sirope, feed themselves upon a melone, dainty fruits, much good meat, and drinke all maner of good Wine.—(*Of Vanitie.*)

[6] Thoughts from the Letters of Petrarch. Trans. J. Lehse, London, 1901.

To this period also belongs the delightful and often-quoted Latin epigram attributed to Euricius Cordus (f.l. 1525) which expresses what perhaps patients always think of their doctors though they do not always say it:—

"Three faces the Phisition hath;
First as an Angell he,
When he is sought; next when he helps,
A God he seems to be;
And last of all, when he has made,
The sicke, diseased, well,
And asks his guerdon, then he seems
An oughly Fiend of Hell."

The following description of a fashionable surgeon of the 16th Century by William Clowes (1540–1604), himself surgeon to Queen Elizabeth and to St. Bartholomew's, is amusing, and some features of the portrait are recognisable even to-day:—

Then riseth out of his chair, fleering and jeering, this miraculous surgeon, gloriously glittering like the man in the moon, with his bracelet about his arms, therein many precious jewels and stones of Saint Vincent his rocks, his fingers full of rings, a silver case with instruments hanging at his girdle, and a gilt *spatula* sticking in his hat, with a rose and crown fixed on the same, standing upon his comparisons, and said unto me that he could open the wound, and if it were before my face: for (said he) my business lieth not in London, but abroad in the country, and with such persons that I cannot or will not tarry for you nor for no other whatsoever. And now here he did begin to brag and boast as though all the keys of knowledge did hang at his girdle.—(*A Proved Practise for all young Chirurgeons.*)

The Elizabethan dramatists have, as was to be expected, many references to doctors in their plays, but as these have recently been collected by Mr. Macleod Yearsley [1] I need not quote any. Most of them are abusive, although Shakespeare, as Mr. Yearsley points out, usually took a more sympathetic view. Thomas Dekker (1570–1641) adopts an ambiguous attitude. In his plays he could show as much animus against the medical profession as any of his contemporaries, and yet in his Plague Pamphlets there is to be found one of the most beautiful metaphors about a doctor ever penned:—

Make much of thy Physitian: let not an Emperick or Mounti-bancking Quacksalver peepe in at thy window, but set thy Gates wide open to entertaine thy learned Physitian: Honour him, make much of him. Such a Physitian is God's second, and in a duell or single fight (of this nature) will stand bravely to thee. A good Physitian comes to thee in the shape of an *Angell*, and therefore let him boldly take thee by the hand, for he has been in God's garden, gathering herbes: and soueraine rootes to cure thee; A good Physitian deales in simples, and will be simply honest with thee in thy preservatio.

From the more serious Elizabethan writers one may select three well-known criticisms of Francis Bacon (1561–1626) in the "Advancement of Learning," all of which are more or less applicable to the present day:—

(1) Medicine is a science which hath been (as we have said) more professed than laboured, and yet more laboured than advanced; the labour having been, in my judgment, rather in circle than in progression. For I find much iteration, but small addition.

(2) I esteem it the office of a physician not only to restore health, but to mitigate pain and dolors; and not only when such mitigation may conduce to a fair recovery, but when it may serve to make a fair and easy passage. . . . But the physicians contrariwise do make a kind of scruple and religion to stay with the patient after the disease is deplored; whereas in my judgement they ought both to enquire the skill, and to give the attendances, for the facilitating and assuaging of the pains and agonies of death.

(It is still difficult to persuade doctors not to strive officiously to keep alive.)

(3) Physicians are some of them so pleasing and conformable to the humour of the patient as they press not the true cure of the disease.

Finally, it is interesting to know, on the authority of Sir Theodore Mayerne (1573–1655), that James I. himself had but a poor opinion of doctors. "The King," says Mayerne, "laughs at medicine and holds it so cheap that he declares physicians to be of very little use and hardly necessary. He asserts the art of medicine to be supported by mere conjectures and useless because uncertain."

Seventeenth Century Writers

By the seventeenth century much of the effervescence of the Renaissance had passed off, whilst the dawn of modern medicine had begun with the introduction of the experimental method by Harvey and the re-establishment of clinical observation by Sydenham. Criticism now becomes graver and more serious in accordance with the spirit of the time, whilst there is greater readiness to acknowledge the virtues of the doctor and to excuse his failings; dispraise, however, is still commoner than praise.

Throughout the century there was a passion for the analysis of human minds and motives, and this often led to the publication of what were called "characters," composite pictures, as it were, of different types of men, although as a rule touching mostly on their passing and accidental aspects. A good example is John Earle's "Microcosmographie" (1628), which contains amongst many other "characters" one entitled "A Meere Dull Physician." It is too long to quote in full, but is entirely malevolent, and the only excuse for Earle is that he wrote it when still very young. The general tone may be gathered from one sentence: "The best cure he (the Physician) has done is upon his own purse, which from a lean sickliness he hath made lusty and in flesh." He has also a "character," styled simply and more politely "A Surgeon," of whom he says (amongst many other sarcasms) that "his gains are very ill-got, for he lives by the hurts of the common-wealth. He differs from a physician as a sore does from a disease or the sick from those that are not whole, the one distempers from within, the other blisters from without. . . . . The rareness of his custom makes him pitiless when it comes: and he holds a Patient longer than our Courts a Cause," and so on.

Thomas Fuller (1608–1661), the contemporary of Earle, is much more sympathetic in his picture of "The Good Physician" [2] of whom he says:—

Coming to his patient he persuades him to put his trust in God, the foundation of health.

He hansells not his new experiments on the bodies of his patients, letting loose mad recipes into the sick man's body. . . . .

To poore people he prescribes cheap but wholesome medicine, not removing the consumption out of their bodies into their purses.

He brings not news with a false spie that the coast is clear till death surprises the sick man. When he can keep life no longer in, he makes a fair and easy passage for it to go out. . . . .

And more in the same laudatory strain.

To surgeons he is equally kind.[2] "Necessary and

[1] Doctors in Elizabethan Drama. London, 1933.

[2] The Holy State.
[2] History of the Worthies of England. Chap. IX.

ancient," he says, "their profession, ever since man's body was subject to enmity and casualty," and ends by "wishing unto them the three requisites for their practise, an Eagle's eye, a Ladies hand and a Lion's heart."

Robert Burton (1577–1640) as another classical author of the period, whose references to doctors and medicine are always in terms of praise whilst he reserves blame for those whom he terms "mountebanks, quack-salvers and empiricks."

The seventeenth century writer who was most witty and satirical at the expense of doctors was, of course, Molière, but his plays do not lend themselves well to brief quotation and are moreover very well known.

The Eighteenth Century

The eighteenth century was the age of "reason" when all established beliefs and customs were subjected to criticism from which the medical profession did not escape. Nor can it be denied that criticism was often deserved. The profession at this time was divided into three classes—physicians, surgeons, and apothecaries. Of these the physicians and surgeons were for the most part well educated and, indeed, often learned men, but their practice left much to be desired, for in spite of the progress of the seventeenth century medicine almost stood still for more than two generations, and even up to the end of the eighteenth bleeding, blistering, purging, and polypharmacy were the chief weapons in the physicians' armoury. Their manners also were open to attack, for it was an age of medical pomposity and pedantry, of full-bottomed wigs, snuff-boxes, and gold-headed canes. Voltaire's witticisms were not without point when he defined a physician as "one who pours drugs of which he knows little into a body of which he knows less," and when he said that "the art of war is like that of medicine, murderous and conjectural."

The opinions on doctors and medicine expressed by the intellectuals or "wits" of the century are much divided; some are full of contempt, others of the highest praise. Horace Walpole (1717–1797), for instance, writes: "I abhor physicians." "By quack I mean impostor not in opposition to but in common with physicians." "In physicians I believe no more than in Divines," and much more in the same strain. Lady Mary Wortley Montagu (1689–1762) is not much kinder, for she accuses doctors of opposing inoculation because small-pox brought them so much money, and speaks of "a world of filthy doses and more filthy doctors' fees." On the other hand, Pope (1688–1744), who was not over given to commendation, said of physicians that they were in general "the most amiable companions and the best friends as well as the most learned men" he knew. The highest praise, however, comes from Samuel Johnson, who counted many physicians amongst his friends:—

> Medicine is a profession which must, undoubtedly, claim the second place amongst those which are of the greatest benefit to mankind.
>
> Every man has found in physicians great liberality and dignity of sentiment, very prompt effusion of beneficence and willingness to exert a lucrative art where there is no hope of lucre.
>
> They (doctors) do more good to mankind without a prospect of reward than any profession of men whatever.

His criticisms are comparatively mild:—

> Life is not to be sacrificed either to an affectation of quick discernment or of crowded practice, but may be required, if trifled away, at the hand of the physician.
>
> How many men in a year die through the timidity of those they consult for health.

Addison is inconsistent, for in the *Spectator* he writes:—

> If . . . we look into the profession of physic, we shall find a most formidable body of men. The sight of them is enough to make a man serious, for we may lay it down as a maxim, that when a nation abounds in physicians, it grows thin of people.

But in the *Tatler* we find him (or Steele) saying:—

> There is not a more useful man in a commonwealth than a good physician . . . he uses his skill with generosity even to persons of condition, and compassion to those in want: which is the behaviour of Hippocrates, who shows as much liberality in practice, as he does wit in his conversation, and skill in his profession. A wealthy doctor, who can help a poor man, and will not, without a fee, has less sense of humanity than a poor ruffian, who kills a rich man to supply his necessities. It is something monstrous, to consider a man of liberal education tearing out the bowels of a poor family, by taking for a visit what would keep them a week. Hippocrates needs not the comparison of such extortion to set off his generosity; but I mention his generosity to add shame to such extortion.

Other eulogists are Blackstone (1723–1780) who wrote in his Commentaries: "The medical profession, beyond all others, has remarkably deserved the character of general and extensive knowledge," and Samuel Parr (1747–1825), the Whig Johnson, who thought that of the three learned professions "in erudition, in science and in habits of deep and comprehensive thinking, the pre-eminence must be assigned in some degree to physicians."

Passing to lighter comments of the century one must quote the well-known epigram which has been attributed to Samuel Garth (1661–1719), himself a physician, but also to Joseph Jekyll (1752–1837), the wit and politician, as well as to others. Of the various forms of it I prefer the following:—

> See, one physician, like a sculler, plies,
> The patient lingers and by inches dies,
> But two physicians, like a pair of oars,
> Waft him more swiftly to the Stygian shores.

Henry Fielding (1707–1754) makes a hit when he says, "Every physician almost, hath his favourite disease," and everyone will agree with Swift (1667–1745) that "no man values the best medicine if administered by a physician whose person he hates or despises."

Hannah More (1745–1833) was, perhaps, reflecting more upon patients than upon doctors when she "used to wonder why people should be so fond of the company of their physician, till she recollected that he is the only person with whom one dares to talk continually of oneself, without interruption, contradiction or censure."

Finally, we get this sly dig from James Townley (1714–1778), the author of "High Life below Stairs."

> Wonderful is the skill of a physician; for a rich man he prescribeth various admixtures and compounds, by which the patient is brought to health in many days at an expense of fifty pounds; while for a poor man for the same disease he giveth a more common name, and prescribeth a dose of oil, which worketh a cure in a single night charging fourpence therefor.

The Moderns

From the middle of the nineteenth century down to the present day the progress of medicine has been so remarkable and its benefits to the community so conspicuous that many of the old gibes at doctors have lost their point and are only repeated, if at all, in jest. Praise, therefore, amongst modern writers is found to be commoner than dispraise, and critisicm is reserved more for the manners and customs of the

profession as a whole than for its practice or morals. From the immense mass of modern literature one can only select a few representative opinions, and these almost entirely from writers in this country.

There is curiously little to be gleaned from the great novelists of last century. Scott gives a charming picture of a country surgeon in Gideon Gray, but except when he says that doctors are "bad guessers" he makes almost no general criticisms. Dickens has very little to say about Medicine; his strictures were reserved for the Law. Thackeray has a few references to doctors in the "Book of Snobs," which are favourable although inclined to be patronising. George Eliot, in "Middlemarch," depicted with great skill and humour different types of practitioner, but, like Scott, refrains from general praise or blame except when she says: "it is seldom a medical man has true religious views—there is too much pride of intellect."

The following passage—it can scarcely be called criticism—from Trollope's "Doctor Thorne" is amusing:—

> A physician should take his fee without letting his left hand know what his right hand was doing; it should be taken without a thought, without a look, without a move of the facial muscles; the true physician should hardly be aware that the last friendly grasp of the hand had been made more precious by the touch of gold.

Of the opinions of politicians we may take three, dating from the early nineteenth, late nineteenth, and early twentieth century respectively.

Lord John Russell (1792–1878): I admire the habits of a physician; he sees the weakness of our nature; he is generally just and conscientious, though somewhat selfish; from the contempt which his profession must give him of mankind, his mind is rather accurate than exalted.

Lord Salisbury (1830–1903): Doctors are a social cement.

Mr. Lloyd George: While I was dealing with the Insurance Act I had much to do with doctors. I found them unreasonable and unruly.

The doctors are always changing their opinions. They always have some new fad.

Ruskin's tribute to the profession in the "Crown of Wild Olives" is well known:—

> So of doctors. They like fees, no doubt—ought to like them; yet if they are brave and well-educated, the entire object of their lives is not fees. They, on the whole, desire to cure the sick; and—if they are good doctors, and the choice were fairly put to them—would rather cure their patient and lose their fee, than kill him and get it.

And here is a selection of *obiter dicta* by various writers arranged roughly in chronological order:—

He is the best physician who is the best inspirer of Hope.—*S. T. Coleridge* (1772–1834).

A physician ought to be extremely watchful against covetousness; for it is a vice imputed, justly or unjustly, to his Profession.—*Thomas Gisborne* (1758–1846).

The sixth commandment is suspended by one medical diploma from the North of England to the South.—*Sydney Smith* (1771–1845).

Doctors are generally dull dogs.—*John Wilson* ("Christopher North") (1785–1854).

This is where the strength of the physician lies be he a quack, a homœopath or an allopath. He supplies the perennial demand for comfort, the craving for sympathy that every human sufferer feels.—*Tolstoy* (1828–1910).

A physician's physiology has much the same relation to his power of healing as a cleric's divinity has to his power of influencing conduct.—*Samuel Butler* (1835–1902).

Doctors are the only autocrats we have left.—*E. F. Benson.*

No one appreciates the medical profession more highly than myself. Doctors are the most generous of men; but they are unwise when they represent doctoring either as an art or a science. The late Dr. Jowett once said that logic "was neither a science nor an art, but a dodge," and doctors would be better appreciated if they would frankly admit that doctoring is like logic.—*Anonymous Author of More from a Lawyer's Notebook.* 1933.

On the whole the doctors I have known have been amongst the finest men of my acquaintance. I have found them the kindest and wisest friends . . . . their generosity far surpasses what I have found in any other profession.—*Dean Inge.*

I should like to quote Mr. Kipling's very eloquent praise of the medical profession in the Address which he gave some years ago at the Middlesex Hospital but time does not permit, so I shall conclude these excerpts with Robert Louis Stevenson's charming Dedication in "Underwoods."

> There are men and classes of men that stand above the common herd: the soldier, the sailor, and the shepherd not unfrequently; the artist rarely; rarelier still, the clergyman; the physician almost as a rule. He is the flower (such as it is) of our civilisation; and when that stage of man is done with, and only remembered to be marvelled at in history, he will be thought to have shared as little as any in the defects of the period, and most notably exhibited the virtues of the race. Generosity he has, such as is possible to those who practise an art, never to those who drive a trade; discretion, tested by a hundred secrets; tact, tried in a thousand embarrassments; and what are more important Heraclean cheerfulness and courage. So it is that he brings air and cheer into the sick-room, and often enough, though not as often as he wishes, brings healing.

The Conclusion of the Whole Matter

Glancing back over the ground which we have now traversed we shall be convinced, I think, of the truth of the saying of an American writer, Charles L. Dana, that "all the real, solid, elemental jests against doctors were uttered some one or two thousand years ago." For medical satire and dispraise throughout the ages have always been much of the same kind. We are accused of ignorance, of greed for money, and of not practising what we preach; on the other hand, we are praised by other writers for our learning, and for our liberality and generosity. It would appear that praise and dispraise pretty well cancel out, just as in the individual practice of each of us undeserved blame is balanced by unearned credit. We have seen that in the earlier periods of medicine blame was probably often well merited but that as the profession has risen in efficiency so it has gained in esteem. Even now, however, it is probably true to say that the individual doctor is better liked than the profession as a whole; and contemporary criticism is directed more against our so-called "medical etiquette" and our attitude towards the irregular practitioners outside our ranks than against our personal failings. Meanwhile, a survey of the praise and dispraise of which we have been the subject throughout the ages is worth while if it helps us, both as individuals and as a profession, to be ever more worthy of the one and undeserving of the other.

Note.—The quotations in this lecture are chosen from a much larger number, collected by Dr. Gladys Wauchope and myself, which are being published in the London Hospital Gazette as a "Medical Anthology."

BIBLIOGRAPHY

Witkowski, G. J.: Le Mal qu'on a dit des Médecins, Paris, 1884.

Coriat Isador H.: The Psychology of Medical Satire, Annals of Med. Hist., 1921, iii., 403.

Leake, Chauncey D.: Medical Caricature in the United States, Bull. of Soc. of Med. Hist. of Chicago, April, 1928, vol. iv.

INFANTILE DIARRHŒA

WITH SPECIAL REFERENCE TO DEHYDRATION AND OTITIS MEDIA

BY MONTAGUE MAIZELS, M.D., M.R.C.P. Lond.

CLINICAL PATHOLOGIST, UNIVERSITY COLLEGE HOSPITAL; LATE PATHOLOGIST, INFANTS HOSPITAL, WESTMINSTER; AND

JEAN SMITH, M.D., M.R.C.P. Lond.

ASSISTANT PHYSICIAN TO THE INFANTS HOSPITAL AND THE PRINCESS LOUISE HOSPITAL FOR CHILDREN

INFANTILE diarrhœa is among the most interesting of maladies, presenting problems for elucidation in preventive medicine, pathology, and physiology.

When acute diarrhœa occurs in previously healthy infants it tends to be somewhat self-limited. At the onset it may be of slight or choleraic intensity, but if the initial symptoms are survived there is a good chance of recovery, although relapse may follow. When, however, it occurs in a child previously undernourished or marasmic, the outlook is not nearly so good. The onset may be mild, but the illness develops with a certain momentum; improvement is often followed by relapse and one or more of these is likely to prove fatal.

It is seldom that a specific organism can be isolated, though infections due to dysentery bacilli (Flexner or Sonne) have been described. Nor are the post-mortem findings characteristic. In fatal cases the following appearances may be noted: Dehydration and wasting are extreme. The gut is inflamed but the degree of redness is not proportional to the severity of the symptoms, in so far as slight hyperæmia may sometimes be associated with severe diarrhœa; the lower ileum is usually involved; next in frequency is the colon and the stomach; then the duodenum and least often the jejunum. The erythema is patchy; sometimes the Peyer's patches and solitary follicles are specially affected, but often they are not. There may be submucous hæmorrhages, but definite ulceration is not common. Inflammation of the mesenteric glands is frequent, but in some cases, more especially in marasmic infants, the lymphoid tissues appear to be atrophic. The liver and kidneys are often fatty and sometimes markedly so. The lungs frequently show hypostatic congestion or broncho-pneumonia. The heart is usually dilated and the muscle pale. The pia-arachnoid may show œdema and the grey matter of the brain is often hyperæmic and looks pink. In 60 per cent. of autopsies pus-like material was found in the middle ears or mastoids, and occasionally in the nasal air sinuses (once in five cases examined).

BIOCHEMICAL CHANGES

The biochemical changes in infantile diarrhœa are very complex and depend primarily on starvation, loss of fluid, loss of salts, and toxæmia. In mild cases these changes may be slight, but if diarrhœa is severe, divergences from the normal are always considerable. The following observations are based on 243 examinations of 168 severe cases carried out in collaboration with Miss C. B. McArthur at the Infants Hospital; an analysis of 48 of these cases has been published elsewhere.[1]

Starvation.—In the diarrhœa of infants the starvation factor is well marked, but ketosis is not common and was absent in some of the worst cases; in 16 per cent. traces of acetone were found in the urine; in 13 per cent. much acetone was found, and in 3 per cent. diacetic acid as well as acetone.

Dehydration.—The influence of dehydration is more important. The variation in fluid content may be demonstrated by daily weighing or by hæmoglobin estimations. Thus an early case with 70 per cent. of hæmoglobin may show a rise to 90 per cent. in 24 hours, to be followed by a decrease to 80 per cent. or less as a result of treatment, and then again another rise to 100 per cent. as a result of continued diarrhœa. Such hydrolability is very characteristic of infantile diarrhœa. This loss of fluid greatly diminishes the blood volume and increases its viscosity, so that the peripheral circulation becomes small and sluggish. For this reason the extremities are blue and cold. Tissue oxidation becomes imperfect, so that lactic acid and other more complex acids are produced and these result in acidosis.[2]

The general deficiency in blood-supply is shared by the kidneys, which themselves may be further damaged by toxæmia. Water, urea, phosphate, and chloride are not freely excreted, and the retained urea may be very high; it was above 0·1 per cent. in 19 observations on 28 severe cases. The phosphoric acid retained as a result of renal insufficiency contributes to the acidosis.[3] Further, both acids and bases are lost in the frequent, loose stools, but as there is usually an excess of base excreted by the gut, there remains in the blood an excess of acid over base.[4] This is a further cause of acidosis.[5] In 9 per cent. of our 168 cases the alkali reserve of the blood was less than one-half (and in five cases less than one-fifth) of the normal. Moderate acidosis was present in 42 per cent. of the cases; in 33 per cent. the plasma bicarbonate was normal (22–28 millimoles) or nearly normal; 16 per cent. showed an alkalosis, including 6 cases where the alkali reserve was approximately doubled. Alkalosis has usually resulted from alkali therapy but in three instances appeared to be primary. The loss of salts in the stools, and of chloride in particular, is sometimes so great as to lead to a deficiency of chlorides in the blood (29 per cent. of our cases), but more often the accompanying loss of water is so much more marked and the blood in circulation so diminished in volume as to lead to an actual increase in the chloride content (33 per cent. of cases). It follows that the greater the dehydration, the greater the plasma chloride and the less the alkali reserve. There is thus a reciprocity between plasma bicarbonate and chloride, so that, generally speaking, they vary inversely (Table I.).

TABLE I.—*Plasma Bicarbonate and Chloride*

Alkali reserve (millimoles).	Plasma chloride.		
	Increased per cent.	Normal 95–105 mm.	Decreased per cent.
–10	75	19	6
10–20	50	44	6
20–30	25	39	36
30 and over ..	12	38	50

The abnormal acids circulating in the blood are excreted by the kidneys and hence the urine becomes excessively acid. These acids in the normal urine are combined partly with fixed bases, sodium, potassium, calcium, and magnesium, and partly with ammonia. This ammonia is formed by the kidneys as required. In the acidosis of diarrhœa, the fixed bases are retained to neutralise the acids in the tissues, and the acids of the urine are combined with ammonia. If the kidneys are relatively healthy, they are able to supply all the requisite ammonia, and the ammonia coefficient of the urine rises considerably. If, however, the kidneys are damaged

by the general disorder, ammonia formation fails; a urine of intense acidity is excreted and the ammonia coefficient is not raised.

It would obviously be of value if one could determine the presence or absence of acidosis from the urine alone without tedious blood examinations. This, however, is not possible, for the reaction of the urine is often acid when the blood is normal, and even when the blood is excessively alkaline. Again, if the kidneys are failing, acidosis is not accompanied by a raised ammonia coefficient; on the other hand, the ammonia coefficient, although often raised in the presence of acidosis, may be quite high when the alkali reserve is normal or increased. It is certainly true to say that an alkaline urine never occurs with acidosis, but this sign is of little value, since alkaline urines are rare in any stage of diarrhœa (Table II.).

TABLE II.—*Plasma HCO_3 and Urine (pH, &c.).*

—	Acid urine (pH 6·2 and less).	NH_3 coefficient to—		
		—8 per cent.	8–12 per cent.	12 per cent. and over.
	Per cent.			
Marked acidosis	100	14	29	57
Moderate acidosis	84	14	29	57
Normal	78	32	26	42
Alkalosis ..	60	45	25	30

Similarly with regard to the urinary chloride: if chloride is present in the urine, blood chloride may be high or normal; it is probably not low. On the other hand, absence of chloride from the urine tells us nothing about the chloride concentration of the blood, which may be low or normal; or if the kidneys are so damaged as to fail in the excretion of chloride, the urine may be chloride-free while there is a considerable accumulation of chloride in the blood (Table III.).

TABLE III.—*Plasma and Urine Chloride*

	Urine chloride less than 0·08 per cent.
Plasma chloride less than 95 mm. ..	89 per cent.
Plasma chloride 95–105 mm. ..	57 ,, ,,
Plasma chloride over 105 mm. ..	45 ,, ,,

Blood and Cerebro-spinal Fluid Chloride.—The relation between the plasma and cerebro-spinal fluid chloride is closer, the latter running parallel with but higher than the former. For this reason the cerebro-spinal fluid chloride is sometimes increased by 50 per cent. in renal retention cases, while in the rarer examples of chloride depletion, cerebro-spinal fluid chloride readings of 90 millimoles (0·52 per cent. NaCl) and less may be encountered. Most of our cerebro-spinal fluids were obtained post mortem, but the findings were confirmed by estimations made on five fluids obtained during life for suspected meningitis.

SIGNIFICANCE OF BLOOD CHANGES

It may be said that the following chemical findings have a bad prognostic significance: (1) acidosis with a low ammonia coefficient; (2) alkalosis with an acid urine. The degree of acidosis alone is no guide to the severity of a case, for patients with marked acidosis may recover and others with a normal alkali reserve succumb. In fact, blood examinations tell us little prognostically beyond what can be directly observed from the patient's dehydration and other clinical signs. The chemical findings have, nevertheless, a very definite bearing on the type of extra fluid which should be given therapeutically to make good water and mineral loss. One result of biochemical investigations has been to show that normal saline is an unsuitable fluid to administer to dehydrated infants (Hartman [6]) and is on the whole contra-indicated in cases of infantile diarrhœa.

The sum of chloride plus bicarbonate in the blood is set at a fairly constant level (about ½ molar) and they are complementary in the sense that if the amount of one increases the other decreases in order to keep the sum of HCO_3 plus Cl constant. Thus, if we inject a strong solution of saline into an infant we raise the blood chloride from the normal 0·6 per cent., and in order to bring the HCO_3—plus—Cl back to normal as quickly as possible the kidneys excrete not only chloride but also bicarbonate. Hence the injection of salines leads to a complementary elimination of the alkali reserve and thus to an acidosis.

If, as is often the case, low plasma bicarbonate, high chloride, and dehydration exist before treatment, chloride injection increases the acidosis and blood chloride still further. It may also increase the dehydration. Thus if 150 c.cm. of 0·9 per cent. saline are injected, the blood chloride will rise. If the kidneys are not functioning well the patient may become œdematous; if renal function is good the kidneys endeavour to excrete the great excess of chloride in the blood. It is a matter of experience that the chloride in the urine is not likely to exceed a concentration of 0·45 per cent.; hence, in order to eliminate the excess of sodium chloride in the 0·9 per cent. saline injected, at a concentration of 0·45 per cent. or less in the urine, much of the extra fluid is wasted, and if copious saline injections are given in the course of a day, the patient may actually sustain a net loss of fluid in the exchange.

This sequence of events is denied by Hoag and Marples,[7] who find that injections of normal saline neither raise blood chloride nor increase acidosis. It must be noted, however, that their saline infusions were supplemented with copious intravenous injections of glucose. Routine intravenous therapy of this kind complicates treatment and, in its absence, it seems likely that acidosis may still be expected. Few of our cases received normal saline, but our experience agrees with Hartmann. Thus in one patient so treated the blood chloride doubled in a few hours and a condition of general œdema with symptoms of cerebral irritation developed. Later, however, the œdema disappeared and the child relapsed into a condition of profound dehydration.

As an alternative to 0·9 per cent. saline, half-strength saline may be used and is to be preferred. Glucose has certain advantages, because the glucose can be completely oxidised in the body and does not require to be excreted by the kidneys; the whole of the water therefore in which it is dissolved can be entirely devoted to the relief of dehydration. Hoag and Marples rightly insist on the importance of maintaining a free secretion of urine, and for this reason we feel that it is wisest to combine glucose (2½ or 5 per cent.) with hypotonic saline (0·45 per cent.). The fluid so added to the body improves the peripheral and renal circulation and so helps to remove acidosis. But if the acidosis is severe, glucose alone will not act promptly enough and sodium bicarbonate must be given as well. The risk of overdosage with alkali is slight; it may be suspected if the breathing becomes shallow, but can only be demonstrated with certainty by blood examination. Sometimes overdosage with alkali is accompanied by the excretion of an alkaline urine, and this is a favourable sign; in bad cases, however, a marked and dangerous excess of alkali may exist in the blood, which the kidneys, being damaged,

fail to excrete and hence the urine remains strongly acid.

To avoid the risk of alkalosis, and also the execution of tedius blood examinations, Hartmann of St. Louis has introduced a buffered lactate solution.[8] It consists of a weak solution of sodium lactate and saline. The solution itself is neutral and does not tend to disturb the reaction of the blood while, if acidosis be present, the lactate is converted into bicarbonate and is available for neutralisation. If, on the other hand, acidosis is absent, the conversion of lactate into bicarbonate is so slow as to render the risk of alkalosis very slight.

TREATMENT

In spite of all that has been written in recent years on the treatment of infantile diarrhœa, prophylactic measures still remain the chief weapon in reducing the mortality from this disease. Breast feeding is the great safeguard. The consensus of opinion seems to favour moderate purgation and starvation in early cases only, but to avoid these procedures in cases of longer standing. It is usually conceded that fat and carbohydrates are not well tolerated. In three cases of the present series it was thought that skimmed breast milk was valuable.

Of the several symptoms associated with diarrhœa and vomiting it is possible to discuss here only three: dehydration, ketosis, and otitis media.

Dehydration.—The alleviation of this condition is of paramount importance. There is a choice of routes, and fluid may be given orally, subcutaneously, intraperitoneally, or intravenously in this order, until the dehydration is relieved. Oral administration alone is seldom successful in cases of any severity: the intestinal capillaries are collapsed and absorption from the gut becomes uncertain and erratic. If absorption does not occur, glucose and saline given by mouth add to the fluidity of the bowel contents and increase diarrhœa. A suitable fluid for oral administration is sodium bicarbonate, ¼–1 per cent., with glucose, 5 per cent.

If dehydration is severe, fluid may be given subcutaneously or by the intraperitoneal or intravenous route. For all-round utility, subcutaneous injections are suitable. Glucose, 5 per cent. with 0·45 per cent. saline, may be used. The sugar must be pure and is best sterilised as a dry powder and added to warm sterile water. Failing this, 0·45 per cent. saline may be given. Sodium bicarbonate is valuable, but its sterilisation is a complicated procedure. It is not suitable for general use. Hartmann's buffer lactate solution is very useful in severe cases, when it is safe to assume that acidosis is present. Several ounces may be given at a time, and it may be repeated several times a day.

The great advantage of intraperitoneal injection is that five or more ounces may be given at a time. Sodium bicarbonate and glucose are not suitable for intraperitoneal injection, and although 0·45 per cent. saline may be given, the buffer solution recommended by Hartmann has certain advantages. While it is customary for the nursing staff to give subcutaneous saline, intraperitoneal injections must necessarily be given by one of the medical staff, and therefore are not as easily arranged.

Intravenous therapy should be employed in all urgent cases; 10 c.cm. of fluid per pound body-weight is a proper amount, and 7·5 per cent. glucose may be used or, if acidosis is present, Hartmann's buffer solution. If available, a sterile solution of glucose, 5 per cent., and sodium bicarbonate, ¼–1 per cent., is valuable in cases with severe acidosis. Intravenous injections may be given by the method described by Marriott.[9] A brachial vein is safest but least easy of access; the external jugular is more easily entered and, if neither of these is available, then the superior longitudinal sinus may be used. Sometimes the temporal or external saphenous veins are found suitable.

In America blood transfusion has been widely used, but at the Infants Hospital the results of this form of treatment have not been good. Of 20 very severe cases 3 were greatly improved, but the others were not benefited. Perhaps if small repeated transfusions were given earlier in the disease better results might be obtained; 10 c.cm. per pound body-weight was usually given and by the same routes as mentioned for intravenous salines.

There is no doubt that the parenteral injection of fluid is very valuable. A few patients seem shocked by the procedure, but the majority appear to suffer little discomfort. For routine use, subcutaneous or intraperitoneal injections are most useful and sometimes the results are strikingly good. Frequently the ultimate result does not fulfil the promise of early treatment. The continuation of the diarrhœa may necessitate repeated injections which fail to keep pace with the loss of fluid; dehydration recurs and death is not long delayed. It sometimes happens that an infant is sustained for weeks by fluid administered in this way. In our experience, however, although subcutaneous injections will often prolong life in desperate cases for three or four days and thus give the infant's powers a chance to overcome the infection after this period we have shot our bolt and little can be expected from further injections. Nevertheless a definite number of infants are saved in this way who otherwise would be lost.

Ketosis in Infantile Diarrhœa.—While acidosis is common in this disease, ketosis is rare; sometimes, however, much acetone and diacetic acid are found in the urine. In such cases, if the symptoms are severe, glucose and small doses of insulin are useful, but owing to the risk of hypoglycæmia no case should be treated in this way outside a hospital, where it can be under constant close supervision and the treatment can be regulated by blood examination. In cases without ketosis, insulin is not helpful.

OTITIS IN INFANTILE DIARRHŒA

We carried out examinations of the middle ears at the Infants Hospital during 1931 and the early months of 1932. The object was to arrive at some definite conclusion with regard to the significance of otitis media and the part it played in the ætiology of infantile diarrhœa and the form of treatment which should be adopted. All the cases of diarrhœa and vomiting were in-patients at the Infants Hospital during the period mentioned and all but two were under the age of nine months. In every instance there was considerable dehydration with loose, frequent stools.

Altogether there were 72 cases of diarrhœa and vomiting, of which 37 (51 per cent.) recovered. In a preceding investigation routine examination of the ears during life was not made, but post-mortem examinations showed that pus-like material was present in the middle ears in 41 of 68 fatal cases. This contrasts with the findings in other diseases where pus was found in 10 of 33 autopsies. The term pus is used throughout this paper to mean thick creamy yellow or green fluid, and not merely a turbid fluid such as is often present in the ears of infants. Since routine examination of the ears has been adopted 72 cases of diarrhœa and vomiting have been followed..

In all cases in which otitis media occurred a correct diagnosis was made, except in one case which was considered to have been normal during life but which was shown to have pus post mortem.

Facies.—While it is common knowledge that otitis media during the last six months of the first year of life is associated with pulling or rubbing the ears, rolling the head, flushed cheeks, restlessness, and crying, it is not generally recognised that in the early months it may be present without these symptoms in a listless, apathetic, pale, toxic-looking child. The grave condition of the child who lies in a somnolent state—with, perhaps, head retraction—may suggest a diagnosis of intracranial trouble. A rise of temperature of varying extent was present in all our cases. In the majority the maximum temperature was between 100° and 103°, the marasmic infants tending to the lower temperatures.

Ears.—In examining the ears in small children an electric auroscope is almost essential. In any case of diarrhœa and vomiting the following appearances of the ears may be found :—

1. *The drum may look normal.*—The normal infant's drum is pearly grey and translucent, although the light reflex is not as bright as it is in adults. It may be difficult or even impossible to see the drums in some infants, because they may be placed too obliquely, or the meatus may be too small, or the lumen may be blocked by debris or numerous fine hairs.

2. *The drum may be pinker than normal.*—Before the drum can be considered pathologically hyperæmic it is necessary to exclude such causes of temporary hyperæmia as recent cleaning or syringing the meatus, or even crying. Provided that such causes can be excluded, it may be assumed that a hyperæmic drum results from infection of the middle ear. If the drum is only faintly pinker than normal, preserves its translucency, and is not bulging, the condition is only catarrhal, and will probably subside without myringotomy. If, however, the drum is pink and no longer translucent or if it is definitely red, pus is probably present. If in addition the drum is not only red but bulging, the presence of pus may be assumed with confidence (Case 1). The amount of pus which is present in these cases varies considerably. Where the drum is bulging, pus usually wells up immediately the incision is made; in others only a bead of pus escapes, and in still others none at all. In such cases as these last it has been found that gentle aspiration may reveal pus which would otherwise escape observation. In our experience this may best be accomplished by attaching a rubber bulb to the side opening of the electric auroscope and exerting gentle suction with the bulb (Case 2).

3. *The drum may be pale.*—In certain cases no hyperæmia of the drum was noticed at any time, the drum on first inspection presenting a greyish-white, opaque appearance with a diminished or absent light reflex. In some instances dilated vessels were observed coursing over the drum in leash-like fashion from the posterior superior wall of the meatus (Case 5). It was especially in such cases that the presence of pus was not revealed until suction was applied.

4. *Meatus.*—In certain cases the posterior superior meatal wall was red and swollen, and sometimes sagged into the lumen of the meatus (Cases 2, 3, and 4). Although in most instances these changes were accompanied by changes in the drum, in a few no such tympanic changes were present. These meatal changes are, of course, well known, and it seems probable that they are the result of disease in the mastoid antrum. Occasionally sagging of the meatal wall was so marked as completely to obscure the drum. In no instance was any post-auricular redness or œdema noticed.

The detailed findings are as follows: in 37 cases examined aural infection was bilateral in 25 and unilateral in 12. The drums were red in 29 cases and in 9 of these bulging was observed. The posterior superior meatal wall was red and swollen in 15 instances. In 11 of these the drum was red, in 2 it was white and opaque, and in 2 it appeared normal. Opaque white drums were seen on 6 occasions.

The Blood Count.—With the occurrence of otitis media an increase of the polymorphonuclear cells was usually noted. Leucocytosis, however, has no positive diagnostic value, although its absence suggests that aural infection is unlikely :—

	Otitis (21 cases).	No otitis (17 cases).
Polymorphonuclears—		
60 per cent. or over ..	13 (62%) ..	6 (35%)
Total leucocytes—		
13,000 or over per c.mm.	18 (85%) ..	7 (41%)
Polymorphonuclears—		
8000 or over	18 (85%) ..	5 (29%)

Treatment.—In view of the unsatisfactory results of untreated otitis media, some of the later cases received local treatment. Of 17 untreated cases 3 recovered, 2 having drained and 1 having resolved spontaneously; mortality, 80 per cent. Of 20 treated cases 10 recovered; all had paracentesis and 5 had antrotomy (bilateral in two instances); 10 died: all had paracentesis and 5 had antral drainage (1 bilateral); mortality, 50 per cent. In 35 cases without otitis the mortality was 31 per cent.

CASE-HISTORIES

CASE 1.—Five months. Admitted March 4th, 1931. Diarrhœa and vomiting three days. Temp. 103° F. March 6th: Right drum red and bulging; left drum red but not bulging. Paracentesis both drums; pus welled up from the right but not from the left. March 13th: Right ear still discharging but less than during the last three days. Left ear dry. Child made uninterrupted recovery.

CASE 2.—Two months. Admitted June 10th, 1931. Temp. 101° F. Severe diarrhœa and vomiting. Both drums pink. June 15th: Temperature fallen to normal but child looking very ill. Diarrhœa and vomiting unaltered. Both meati red and œdematous; drums cream-coloured, sodden, and opaque. Drums incised but no pus escaped until suction applied with Seigel's speculum. Pus then welled up. June 17th: Ears discharging freely. Diarrhœa and vomiting stopped, and general condition much improved. June 24th: Right ear clean and dry but abscess pointing through left superior meatal wall. Abscess opened and drained. Child's general condition not as good as week ago. June 30th: Both drums pale and sodden. Child much worse. Paracentesis yielded pus both sides. Double antrotomy under local anæsthesia revealed both mastoids full of pus. Child died 12 hours later.

CASE 3.—Ten weeks. Admitted Oct. 13th, 1931. Diarrhœa and vomiting five days. Loose, frequent, green stools with severe dehydration. Oct. 15th: Drums normal but both meati red and œdematous. Oct. 16th: Drums pale and opaque, upper part of drum and superior meatal walls more œdematous than on 15th. Both mastoids opened under local anæsthesia. Pus present on both sides. Cultures yielded a pure growth of pneumococci. Blood transfusion of 60 c.cm. given at same time as operation. Oct. 17th: Child much improved. Temperature falling, no vomiting. Oct. 18th: Further improvement. Child made excellent recovery. No vomiting and stools rapidly became normal after operation.

CASE 4.—Twelve months. Admitted May 12th, 1931. Otorrhœa left ear and adenitis. Vomiting and loose stools. Temp. 104·8° F. May 15th: Perforation right drum. Very little discharge. Superior meatal walls very œdematous. Profuse discharge from left ear. May 18th: Right ear shows a large bullous swelling with dilated vessels on its surface projecting from the superior meatal wall. Swelling completely obscures the drum. On making an incision into this swelling a large amount of pus escaped. May 20th: Right ear discharging freely. Child much better. June 2nd: Child quite well. Right drum normal, and only slight trace of incision on meatal wall.

CASE 5.—Eight months. Admitted June 8th, 1931. Diarrhœa and vomiting three days. Temp. 103° F. Drums normal. June 10th: Drums pale with leash of dilated vessels spreading from superior meatal walls on to drums. Paracentesis: no pus obtained. Child died four days later. Post mortem: both mastoids full of pus.

DISCUSSION

The association of diarrhœa with otitis has long been known and the frequent finding of pus-like material in the ears post mortem was demonstrated by Renaud.[9] While a few of these fluid collections are due to post-mortem degeneration (Alexander[10]) the presence of pus cells and hæmolytic streptococci indicates that the majority are ante-mortem.

The sequence of events in combined intestinal and aural infection has led to much divergence of opinion, although it is agreed that the frequency of otitis may be explained by the disposition of the Eustachian tube, which in infancy is relatively short and straight. Marriott[11] and Jeans and Floyd[12] have thought that a streptococcal otitis or mastoiditis is often, though not always, primary. Marriott states that the drum usually showed changes and that there was a consistent sagging of the posterior superior meatal wall near the drum. As the aditus is too small in infants to permit drainage from the antrum through the middle ear, double antrotomy was carried out, and Marriott reports that the procedure gave almost immediate relief of symptoms in a large proportion of cases. Wishart[13] and Maybaum,[14] on the other hand, are of the opinion that otitis and mastoiditis are secondary events. They point out that aural infections are rarely present when patients are first admitted to hospital but develop during their stay in the ward, and are not infrequently agonal events which take place during the last day or so of life and have no real influence on the course of the intestinal intoxication. Maybaum advocates local treatment, but only in the presence of definite local indications.

We are of opinion that the significance of otitis varies in different patients. In three cases otitis preceded enteritis, and in these paracentesis gave good results. In a little more than half of the cases signs of aural infection were present soon after the diarrhœa and vomiting began and were observed within four days of the patients' admission to hospital. The remaining instances of aural infection were late, and sometimes signs were only noticed for the first time when death was imminent.

It seems clear that otitis is rarely the primary cause of intestinal intoxication. On the other hand, once secondary otitis or mastoiditis has occurred a new obstacle to recovery has arisen, and one may well doubt if resolution of the intestinal lesion is possible in the absence of free aural drainage. We consider that if the drums are red and bulging they should be incised. If the drums are red but not bulging and the patient is not very ill, incision may be delayed, but if further deterioration occurs paracentesis should be carried out. Often a bead of pus escapes but sometimes puncture is negative. In some of the latter cases pus may well up after the application of suction through a speculum.

If signs are negative the ears should be left alone. While myringotomy is not a severe operation, the question of antrotomy is more anxious. Marriott and many others state that double antrotomy gives rise to very little shock. We agree that the degree of shock is much less than might have been expected, and that antrotomy should be carried out provided that there is definite œdema and redness of the posterior superior meatal wall. Our small series of cases suggests that adequate aural drainage definitely reduces mortality and possibly better results might have been obtained with earlier operative treatment.

Coates[15] and others express the view that if myringotomy fails to relieve the general symptoms, then this in itself is an indication for double antrotomy. Findlay[16] on the other hand finds the results of aural treatment very disappointing. One must remember, however, that the mortality in severe diarrhœa is high, even when the condition of the ears is unimpeachable; and hence when aural complications are present myringotomy or antrotomy must often be followed by failure.

In conclusion it is necessary to bear in mind that the mortality in infants with enteritis of moderate and marked severity is over 50 per cent., and at present no line of treatment gives consistently good results. Much research of a biochemical and bacteriological nature remains to be done on the management of the developed case, but one will always have to depend chiefly on preventive measures to lower the mortality from infantile diarrhœa.

Our thanks are due to the medical and surgical staff of the Infants Hospital for permission to publish these observations on their cases.

REFERENCES

1. Maizels, M., and McArthur, C. B.: Quart. Jour. Med., 1929, xxii., 581.
2. Clausen, S. W.: Amer. Jour. Dis. Child., 1925, xxix., 761.
3. Marriott, W. McK.: Phys. Rev., 1923, iii., 275.
4. Holt, L. E., Courtney, A. M., and Fales, H. L.: Amer. Jour. Dis. Child., 1915, ix., 213.
5. Holt, L. E. (Jnr.): Acta Pediat., 1930, xi., 150.
6. Hartmann, A. F.: Amer. Jour. Dis. Child., 1928, xxxv., 557.
7. Hoag, L. A., and Marples, E.: Ibid., 1931, xlii., 291.
8. Hartmann, A. F. (quoted by Marriott, W. McK.): Infant Nutrition, London, 1930.
9. Renaud, M.: Bull. et mém. Soc. méd. hôp de Paris, 1921.
10. Alexander, G.: Die Ohrenkrankheiten, Leipzig, 1927, p. 103.
11. Marriott, W. McK.: Trans. Amer. Ped. Soc., 1925, xxxvii., 38.
12. Jeans, P. C., and Floyd, M. L.: Jour. Amer. Med. Assoc., 1926, lxxxvii., 220.
13. Wishart, D. E. S.: Ibid., 1930, xcv., 1084.
14. Maybaum, J. L.: Arch. of Laryng., 1932, xv., 418.
15. Coates, G. M.: Ann. of Otol., Rhinol., and Laryngol., 1927, xxxvi., 913.
16. Findlay, L. J.: Arch. Dis. Child., 1932, vii., 307.

THE BLOOD SEDIMENTATION RATE AND THE PLASMA PROTEINS

BY G. R. P. ALDRED-BROWN, B.M. OXON.
PHYSICIAN TO THE ROYAL MINERAL WATER HOSPITAL, BATH: AND
J. M. H. MUNRO, D.Sc., L.R.C.P. Lond., F.I.C.
PATHOLOGIST TO THE HOSPITAL

FAHRAEUS in 1918 reawakened interest in the difference between the behaviour of shed blood in health and certain morbid conditions.[1] He pointed out that the rate of fall of the red blood corpuscles after the addition of an anticoagulatant (which rate of fall is termed now the sedimentation rate) was accelerated in pregnancy and various pathological states. The nature of the reaction has remained to this day a problem and numerous explanations have been put forward to account for it.

There are certain factors in this connexion on which it may be said that nearly all observers are agreed: firstly that the red corpuscles aggregate into clumps, thus increasing the size of the sedimenting particles; secondly that the force or forces which cause the corpuscles to aggregate are inherent to the plasma and not to the corpuscles themselves; and thirdly that

the number of corpuscles influences the rate, the latter being increased when the corpuscles are reduced.

Amongst the theories that have been advanced has been (1) that the agglutination of the red corpuscles is caused by an absorption phenomenon resulting from

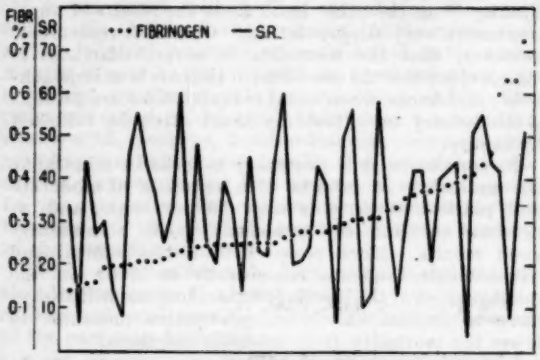


FIG. 1.—The percentages of fibrinogen in the blood plasma of 54 patients are arranged in ascending order of magnitude (black dots). The sedimentation rates of the same patients, when joined by a black line, show no general upward trend to correspond with the upward trend of the black dots. This shows that there is no relation between fibrinogen percentage and the rate of sedimentation.

the lowered electrical burden of the suspended particles, and thus the sedimentation rate depends on alterations in height of the electrical burden of the particles; (2) that it is controlled by the viscosity of the blood; and (3) that sedimentation depends on the composition of the plasma proteins. Some observers believe that it is the fibrinogen in the plasma that regulates the rate of sedimentation; others believe it to be the plasma globulin, and still others maintain the all-important factor to be the fibrinogen-globulin-albumin ratio, the fibrinogen and globulin tending to increase the sedimentation rate and the latter to decrease it. Some hold that it is possible for all these three theories to be correct. However, there can be little doubt that the theory that the composition of the plasma proteins determines the sedimentation rate is the most widely held one and

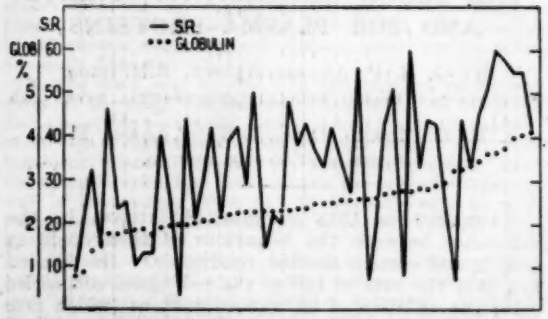


FIG. 2.—Here the black dots represent the percentages of globulin arranged in ascending order. Again the corresponding sedimentation rates show no significant upward tendency.

is the one that appears in modern text-books (e.g., Beaumont and Dodds [2]).

We undertook the present investigation in order to throw light on a subject in which, we believe, theory rests on an insecure foundation of experimental evidence. Our investigations lead us to conclude that the sedimentation rate has *no* connexion whatsoever with the fibrinogen, globulin, or albumin of the plasma.

Gram [3] in 1921 estimated the fibrin content of the blood in normal and pathological conditions and found that the sedimentation rate depended on the fibrinogen percentage of the plasma, the sedimentation being accelerated by a rise in the value and vice versa. This method of estimating the fibrinogen, Gram described at a later date (1929)[4] as "primitive."

Fahraeus [5] made solutions of the different protein fractions of the plasma prepared by precipitation with ammonium and magnesium sulphate, and to these solutions added corpuscles obtained by centrifuging and washing with saline. He found that the red corpuscles behaved differently in the various solutions. When suspended in a pure fibrinogen solution, they aggregated and settled with marked rapidity. When suspended in a pure serum globulin solution, aggregation and sinking were not so pronounced, but still very marked. When suspended in a pure solution of serum albumin, on the other hand, the red corpuscles did not aggregate and sedimentation was very slow.

It is doubtful, however, whether this experiment proves that this is what occurs in shed blood, since, as pointed out by Race,[6] centrifuging and washing with saline alters the shape of the corpuscles, and

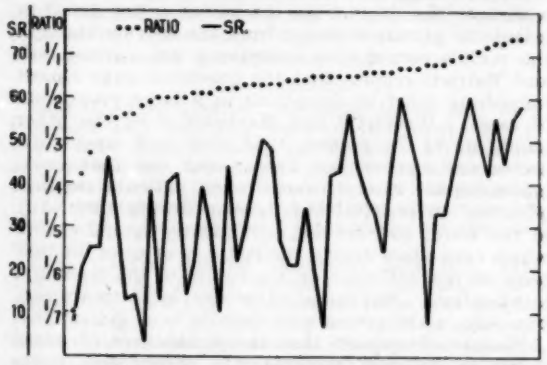


FIG. 3.—Globulin-albumin ratios plotted against sedimentation rate. No parallelism.

may also result in the adsorption of sufficient electrolytes to impart a positive charge to the corpuscles.

Fahraeus further states that he has determined the composition of the plasma proteins and the sedimentation rate in the same clinical cases and found that there was a pronounced parallelism between the amount of fibrinogen or serum globulin and the sinking velocity. No figures, however, are given and this appears to be true of the reports of numerous other investigators whom he states confirm his results.

All the patients we have dealt with have been those suffering from some form of rheumatic disease. Whilst no actual discrimination has been used in selecting the cases, the majority of the cases utilised have been those of rheumatoid arthritis. It is well known that in this condition the sedimentation rate is greatly accelerated; in gout it is slightly accelerated, whilst in true osteo-arthritis and fibrositis it is within normal limits.

METHODS OF ANALYSIS

The sedimentation rate was estimated by the following method. Eleven to twelve cubic centimetres of blood were drawn off with an oxalated syringe and transferred to a graduated centrifuge tube. After standing half an hour to acquire room temperature the contents were thoroughly mixed by repeated inversions and adjusted to 100 divisions (= 10 c.cm.). The fall in one hour after mixing was taken as the measure of the sedimentation rate for the purpose of

this investigation. The room temperature varied from 15° to 20° C. and slightly affected the rate, but not enough to require any important adjustment of the results.

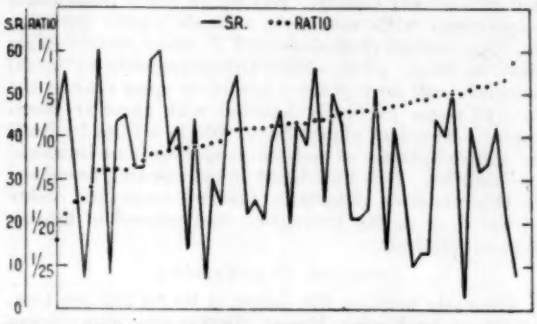


FIG. 4.—Fibrinogen-globulin (F/G) ratios plotted against sedimentation rate. No parallelism.

Plasma was obtained from the above specimen of blood after estimating the sedimentation rate, by centrifuging or allowing to stand overnight, the clear plasma from each sample being tubed off. Analysis of the proteins was immediately proceeded with. In the protein estimations the following procedure was adopted. As from 3–5 c.cm. clear plasma were available for analysis, micro-chemical methods were not resorted to. Wu's colorimetric method [7] based on estimations of the tyrosine factor in the three proteins was found unsuitable, but his ingenious method of separating the fibrin on a pointed rod was adopted. Gram,[8] who gets his fibrin as a round slab on thicknesses of filter paper by a similar method, determines it by direct weighing after two purifications and complete drying. We found it more convenient to determine the nitrogen on the pointed rod by digestion and nesslerising.

The whole scheme of analysis rests on four nitrogen determinations, the two larger amounts by Kjeldahl process and alternatively, the two smaller ones by modified digestion method and nesslerising. Ammonia-free distilled water was used for preparation of all reagents and dilutions, and reagent blank controls were made.

(1) *Total nitrogen.*—0·5 or 1 c.cm. plasma is delivered into a Kjeldahl flask from a capillary pipette graduated to 0·01 c.cm.; 5 c.cm. of (AR) H_2SO_4 added, with 3 drops of 5 per cent. copper sulphate, and digested until colourless, with or without, 1 g. K_2SO_4. After cooling, the mixture is transferred with the washings to a distillation flask, 40 c.cm. NaOH solution of sufficient strength to render alkaline added, and the NH_3 distilled off and titrated with N/20 H_2SO_4, using methyl-red as indicator.

(2) *Albumin nitrogen.*—1 c.cm. of plasma is measured with the same pipette as above, and delivered into a stoppered cylinder containing 30 c.cm. 22·2 per cent. solution of anhydrous Na_2SO_4 previously warmed in an incubator at 37° C. After three hours at 37° C. the mixture is filtered through a close filter and 15·5 c.cm. of filtrate (= 0·5 plasma) is transferred to a Kjeldahl flask and finished in like manner. Globulin and fibrinogen having been separated by Na_2SO_4, the nitrogen of the filtrate is albumin N and non-protein N.

(3) *Fibrinogen nitrogen.*—1 c.cm. plasma is delivered into

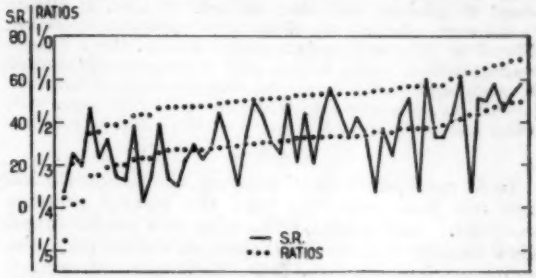


FIG. 5.—The upper black dots represent the ratios F + G/A; the lower represent F + G/total proteins. These two rows run parallel to each other, but not to the sedimentation rates.

a beaker containing 28 c.cm. normal saline, 1 c.cm. of 2·5 per cent. solution of $CaCl_2$ added, and the mixture is allowed to stand 30 minutes. The jelly thus formed is cut by small rod with pointed end and transferred gradually to small open filter, in which the rod is kept slowly rotating. Every trace of fibrin is collected on the point of the rod, which is then squeezed in a clean filter paper and transferred to a pyrex digestion tube containing 1 c.cm. digestion reagent (10 c.cm. 5 per cent. $CuSO_4$ solution, 100 c.cm. (AR) H_2SO_4, 100 c.cm. water). The pyrex tube is gently heated until dense fumes escape, cooled for 30 seconds, and 30 per cent. H_2O_2 solution added drop by drop until the liquid is colourless—two or three drops should be sufficient. The tube is then re-heated for a minute or two until dense fumes again escape, allowed to cool, and diluted to 85 c.cm., cooled, 15 c.cm. Wu's Nessler solution

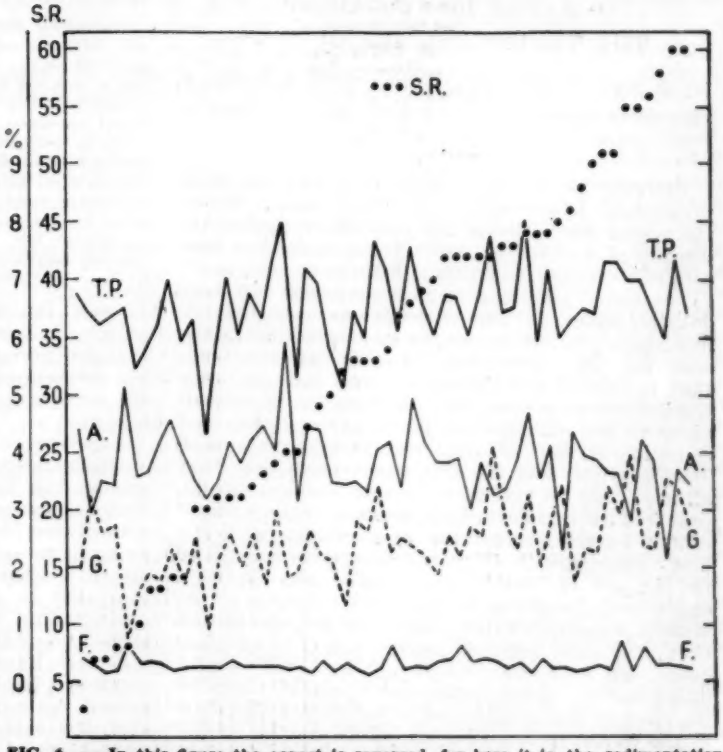


FIG. 6.—In this figure the aspect is reversed, for here it is the sedimentation rates of the 54 patients that are plotted in ascending order. Their steep rise is not paralleled by any corresponding rise in the percentages of total proteins (T.P.), albumin (A.), globulin (G.), or fibrinogen (F.).

is added, the tube is again cooled and ammonia measured in a colorimeter.

(4) *Non-protein nitrogen.*—1 c.cm. of plasma is delivered into a mixture of 5 c.cm. 20 per cent. trichloracetic acid with 4 c.cm. of water, thoroughly mixed, allowed to stand 30 minutes, and then filtered. 5 c.cm. of filtrate (=0·5 c.cm. plasma) are digested as under fibrin, cooled, diluted to 35 c.cm., again cooled, 15 c.cm. Wu's Nessler reagent added, again cooled, and a colorimetric reading is taken against 1·5 c.cm., standard ammonium sulphate (=0·01 mg. nitrogen per c.cm.) diluted to 35 c.cm. with water and made up to 50 c.cm. with Wu's Nessler reagent.

RESULTS

In 54 cases of rheumatic disease, the sedimentation rate has been estimated and the plasma proteins analysed. The graphs illustrating the values found show clearly that no parallelism exists between the sedimentation rate and the fibrinogen percentage (Fig. 1) or the globulin percentage of the plasma proteins (Fig. 2). Further, they show that the sedimentation rate has no connexion with the globulin-albumin ratio (Fig. 3), the fibrinogen-globulin ratio (Fig. 4), or the ratios of fibrinogen plus globulin to albumin and to total proteins (Fig. 5).

The findings are summarised in Fig. 6.

REFERENCES

1. Fahraeus, R.: Acta Med. Scandinav., 1921, lv., 1.
2. Beaumont, G. E., and Dodds, E. C.: Recent Advances in Medicine, London, 1934.
3. Gram, H. C.: Arch. Internal Med., 1921, xxviii., 312.
4. Gram: Acta Med. Scand., 1929, lxx., 242.
5. Fahraeus: Physiol. Rev., 1929, ix., 241.
6. Race, J.: Proc. Roy. Soc. Med., 1929, xxii. (Sect. Balneol.), 15.
7. Wu, H.: Jour. Biol. Chem., 1922, li., 33.
8. Gram: Ibid., 1921, xlix., 279.

ON THE PROTECTIVE ACTION OF "BAYER 205" AGAINST THE TRYPANOSOMES OF MAN

By H. Lyndhurst Duke, O.B.E., M.D., Sc.D. Camb.

DIRECTOR OF THE HUMAN TRYPANOSOMIASIS RESEARCH INSTITUTE, ENTEBBE, UGANDA

Prevention is better than cure and successful prophylaxis is prevention on a large scale. Before the appearance of Bayer 205 prophylaxis against the diseases of man by the use of drugs, as distinct from sera and vaccines, could claim little or no success.

For many years the medical profession has been debating about the value of quinine as a prophylactic in malaria. In the tropics, at all events until lately, such was the uncertainty prevailing on this point that individual practitioners in one and the same tropical township often differed diametrically in their views on this all-important point, to the despair and confusion of their clients. The work of Yorke and MacFie (1924) was the first scientific warning that all might not be well with the time-honoured ritual, practised the world over by Europeans "east of Suez," of the 5-grain tablet taken each evening with the first "sundowner." Of recent years a commission of the League of Nations has studied this question experimentally, and in the third general report of the Malaria Commission the conclusion is promulgated that "No drug which is known, taken in harmless doses, can be guaranteed to act as a true causal prophylactic." Apart from malaria, protection against the diseases of man is limited in its effective operation to the day or so following the administration of the drug. An injection of stovarsol may protect against exposure to yaws or syphilis, but the effects are limited, and David Lees in his text-book on venereal diseases is by no means enthusiastic about its use in this manner. But with Bayer 205 and the trypanosomes of man the position is entirely different. What actually happens to the drug in the body the literature does not reveal very clearly. But we do know from direct experiment with monkeys, animals highly sensitive to *Trypanosoma rhodesiense* and *T. brucei*, that a single dose of Bayer given either subcutaneously or intravenously will protect for a month or more against the bite of tsetse cyclically infected with these trypanosomes. This fact places Bayer 205 in a class by itself as a prophylactic of unique properties and immense possibilities. It is the object of the research described in this paper to determine the full scope and value of the drug in the prevention and control of human trypanosomiasis.

EARLIER OBSERVATIONS

The early work on the action of Bayer 205 has been reviewed by Martin Mayer (1928), who summarises the main points bearing on prophylaxis as distinct from therapy. Kleine and Fischer's work in Northern Rhodesia in 1922 led them to abandon as unsatisfactory the oral administration of the drug. They found the intravenous and subcutaneous routes equally satisfactory. Mayer in his résumé recommends intravenous injection.

Kleine and Fischer showed that the injection into a monkey of 0·15 g. Bayer 205 protected the animal for two months against the bites of tsetse proved to be infective with *T. rhodesiense* or *T. brucei* (Kleine and Fischer, 1922). While working with the League of Nations Commission on Trypanosomiasis in Uganda and using a trypanosome of the *brucei* group from isolated wild tsetse on Damba Island on Lake Victoria, I obtained further evidence on this point (Duke, 1928).

A healthy monkey, No. 21, received two doses of Bayer 205 intravenously, the first injection on Jan. 21st, 1926, and the second on March 30th. From May 31st till June 7th it was fed upon daily by a *G. palpalis* whose salivary glands were heavily infected with *T. brucei*. The monkey's blood remained free from trypanosomes, being examined daily in thick-stained films. On July 2nd and 3rd it was bitten by four flies carrying the same trypanosome. From July 3rd to 15th its blood remained free from trypanosomes, which appeared for the first time on the 16th, remaining more or less constantly present until the animal's death on August 4th. All the gland-infected flies fed upon this monkey had been previously proved to be readily infective to clean monkeys.

In this experiment two injections of Bayer 205 protected a monkey for 69 days against a trypanosome that was normally rapidly pathogenic to the species. The protection conferred by the drug wore off between the seventieth and ninety-fifth days after the last injection.

Experiments on a large scale on man were carried out in the Belgian Congo by Vanden Branden (1926–27) and by Van Hoof and myself (Duke and Van Hoof, 1928). These experiments consisted in the inoculation with Bayer 205 of a section of a native population living in an area known to be infected with *T. gambiense*, another section of this population being left untreated to serve as controls. Vanden Branden concluded as the result of his investigations along these lines that the protection conferred by a single dose from Bayer 205 lasted in man for some nineteen months. The Commission's experiment failed, for none of the controls became infected. Mayer considers that the evidence justifies the conclusion that a single dose of about 1 g. Bayer 205 per adult given intravenously will protect a man against *T. gambiense* from at least three months. He recommends that

TABLE SHOWING THE EXPOSURE OF VOLUNTEERS PREVIOUSLY INOCULATED WITH BAYER 205 TO CYCLICAL INFECTION WITH HUMAN TRYPANOSOMES CARRIED BY *G. palpalis*

Days after last inoculation of Bayer 205.	Volunteers.							Monkeys.			Days after last inoculation of Bayer 205.	Volunteers.						
	A	B	C	E	I	M	Q	1226†	1227†	1229†		A	B	C	E	I	M	Q
38	..	..	2g.	..	..	..	..	..	..	..	103	..	..	..	1d.	..	5b.[2]	..
39	3a.	..	..	..	..	..	..	..	..	..	104	..	..	..	..	..	1b.[2]	..
40	2a.	..	..	..	..	..	..	..	..	..	105	..	..	..	2b.[2]	..	2b.[2]	..
63	1b.	..	..	..	..	..	1b.[2]	..	..	..	107	..	..	..	..	..	..	6b.[2]
66	..	..	..	..	..	..	1b.[2]	..	..	..	108	..	..	..	..	1b.[2]	..	1b.[2]
67	..	..	..	..	..	1b.[2]	..	1b.[2]	..	..	110	..	..	..	..	3b.[2]	..	..
68	..	..	..	..	..	1c.	..	1b.[2]	..	..	111	..	..	..	..	4b.[2]	..	..
69	..	..	..	..	..	..	..	..	1b.[2]	..	113	..	..	..	..	..	1c.	..
70	..	..	..	..	1c.	..	..	..	1b.[2]	..	133	..	1b.[2]	..	..	..	..	..
72	..	..	..	..	1c.	..	..	..	..	..	134	..	..	1b.[2]	..	..	..	..
74	..	..	..	..	..	1c.	1c.	..	..	1d.	136	..	1b.[2]	..	..	..	..	..
75	..	..	..	..	..	1d.	1d.	..	..	..	142	..	..	2b.[2]	..	..	..	..
76	..	..	..	..	..	2b.[2]	2b.[2]	..	..	..	145	..	..	2b.[2]	..	..	**1g.[2]	..
						1d.	1d.				146	1c.	..	..	..	..	..	..
77	..	..	..	..	..	2b.[2]	2b.[2]	..	..	1d.								
						1d.	1d.				147	..	1b.[2]	..	..	..	..	..
78	..	..	..	..	..	1b.[2]	1b.[2]	..	..	..								
79	..	..	..	..	..	1d.	1d.	..	..	..	149	1d.	..	..	..	..	..	..
80	..	..	..	..	2b.[1]	..	..	..	..	..	174	..	..	2b.[2]	..	..	..	..
81	..	..	..	..	2b.[2]	..	..	..	..	..	179	..	1b.[1]	4b.[2]	..	..	..	..
82	..	..	..	..	1d.	..	..	..	..	..	180	..	1b.[2]	1b.[2]	..	..	..	..
83	..	..	..	..	1d.	..	..	..	..	..	181	..	..	1b.[2]	..	..	..	..
88	..	..	..	..	..	..	..	..	..	..	182	..	..	2b.[2]	..	..	..	..
91	..	..	1b.[1]	..	..	..	..	..	..	..	187	1c.	..	..	..	..	..	..
92	..	..	3b.[1]	..	..	..	..	..	..	..	190	2c.	..	..	..	..	..	..
95	..	..	2b.[1]	1b.[2]	..	..	..	..	..	..	208	..	2g.[2]	..	..	..	..	..
99	..	..	..	..	..	..	2b.[2]	..	..	..	210	..	4g.[2]	..	..	..	..	..
100	..	1b.[1]	..	..	..	..	..	..	..	..	212	..	1g.[2]	..	..	..	..	..

EXPLANATION.

The numerals in the columns show the number of gland-infected flies biting man on that date.

a = *T. rhodesiense* strain Tinde III. (passage 1) controls: volunteers N and O, both infected.
b[1] = " " LX. (" 1) control " T infected.
b[2] = " " " (" 2) " " V "
b[3] = " " " (" 3) " " D "
c = " " Tinde II. " " U "
d = " " Tinde III. (passage 2) " " X "
e = " " " " (" 3) " " ** "
g = *T. gambiense* " LX. 1 " " P "
g[2] = " " LXII. (cf. text).

** This fly was dissected the day after it fed on volunteer M. Both salivary glands were heavily infected and the alimentary canal was full of M's blood.

† Trypanosomes appeared in 1226's, 1227's, and 1229's blood 11, 9, and 8 days respectively after the first fly bite.

this dose be repeated every three months in those exposed to infection by cyclically infected tsetse in nature.

The Present Inquiry

The experiments now to be set forth were started in connexion with an investigation on the effect of long residence in antelope on the trypanosomes of man. Volunteers were used, and those who became infected were treated with Bayer 205 the moment trypanosomes were demonstrated in their peripheral blood. Three of these treated cases (A, B, and C in the accompanying Table) were chosen as the starting-point of the present research. Each of these men was infected with a strain of *T. rhodesiense* that had been for months in an antelope at the laboratory. In each case after an incubation period of eight to ten days trypanosomes appeared in the blood, and the patient complained of malaise and high fever (105° F.). The first dose of Bayer was given immediately trypanosomes appeared, and each patient received subsequently five more doses of 1 g. each dose at intervals of a few days.

Later on, at the conference held last November at Entebbe upon trypanosomiasis research in Eastern Africa, the examination of the prophylactic value of Bayer 205 was allocated to the Uganda Institute. Three healthy native volunteers were selected (I, M, and Q in the Table), and each received a single intravenous injection of 1 g. Bayer 205, and another treated volunteer (E) was added to the first list. In addition, three monkeys also received a prophylactic dose: 1226-27, 0·158 g. per kilo; and 1229, 0·023 g. per kilo body-weight.

The results of all these preliminaries are shown in the Table, in which are given the details of the exposure of each individual to infective tsetse. The numerals in the columns show how many gland-infected flies bit the volunteer on each occasion. Several strains of *T. rhodesiense* were used, and the infectivity to man of each batch of flies was tested on a separate, "clean" volunteer before the flies fed on the Bayer-treated subject. All the flies fed well, this being verified by observation and, in the case of the last feed of each insect, by dissection. Before being placed on the volunteer each fly was either starved for 48 hours and then given a second opportunity to feed on the following day, or was starved for 72 hours and then fed on the volunteer.

The honorary statistician to the research conference at Entebbe, Dr. C. H. N. Jackson of Tanganyika, expressed the opinion that for the results of this investigation to be statistically valid eight cases and eight controls would be sufficient, provided that 100 per cent. of the controls became infected and 100 per cent. of the inoculated cases remained uninfected. This estimate was based on the tacit assumption that all men are equal in their resistance to trypanosomes, a matter upon which recent research at Entebbe has thrown some doubt. This objection is in all probability negligible in the present investigation for the strains used were strongly pathogenic to man.

The Table shows that a single dose protected against *T. rhodesiense* for at least 113 days, and that those volunteers who had been treated with six doses of Bayer, after being infected for some ten to eleven days with *T. rhodesiense*, resisted all attempts at

reinfection with different strains of *T. rhodesiense* for at least 190 days. On the other hand the monkeys both succumbed after 67, 69, and 74 days—in each case on their first exposure to infection after treatment with a single dose of Bayer 205.

The results obtained with *T. gambiense* are particularly instructive.

On the 113th day after receiving a single dose of Bayer 205, volunteer M was bitten by a fly carrying *T. rhodesiense*. On dissection the intestine of this fly was found to be full of M's blood and its salivary glands were heavily infected with flagellates, and had infected a volunteer before it bit M. M did not become infected, being still protected against *T. rhodesiense*. On the 145th day this volunteer was bitten by two flies whose glands were infected with *T. gambiense* strain LXII. Nine days later he reported sick; his temperature was 100° F. and he had a small tender swelling on the thigh where the flies had fed. Trypanosomes were found in the peripheral blood.

The administration of a single dose of Bayer 205 had therefore protected this man against *T. rhodesiense* for at least 113 days, but by the 145th day he was no longer safe against *T. gambiense*.

Turning now to the six-dose series of volunteers, we see that B was bitten by seven gland-infected flies carrying *T. gambiense* between the 208th and 212th days after the last administration of Bayer 205. Twenty-two days after the last of these flies had bitten him this man complained of mild indisposition and a small tender swelling on the forearm where the flies had fed. Trypanosomes were present in his peripheral blood. Thus volunteer B who was protected against *T. rhodesiense* for at least 180 days after the last administration of Bayer 205, by the 208th day possessed no defence against *T. gambiense*. It has not yet been determined how long protection lasts against *T. gambiense* in man; the only other experiment performed with this trypanosome being that upon volunteer C who resisted infection 38 days after his last dose of Bayer 205.

CONCLUSIONS

A consideration of the evidence now available suggests the following conclusions.

(1) That a single dose of 1 g. of Bayer 205 given intravenously will protect a man for at least 113 days from infection by tsetse carrying cyclically *T. rhodesiense*.

(2) That the administration of a second dose three weeks or so after the first enhances the protective effect of Bayer 205.

(3) That within certain at present undetermined limits the protective effect may be directly proportional to the number of doses given, although this point is not yet definitely settled. Three infected volunteers, all treated with Bayer 205 immediately trypanosomes were first detected in the peripheral blood and each receiving six doses of 1 g., were protected against *T. rhodesiense* for 180, 182, and 190 days respectively.

(4) That the natural sensitiveness of the mammal to the trypanosome plays an important part in determining the duration of the protection conferred by Bayer 205, the more susceptible monkey receiving less protection per dose per kg. body-weight than the more resistant man.

(5) It is probable, though not yet proved, that the protection conferred by Bayer 205 is greater against *T. rhodesiense* than against *T. gambiense*. *T. gambiense* is an old-established parasite of man and the power to infect him is a deeply rooted quality of this trypanosome, whereas recent research at Entebbe has shown that *T. rhodesiense* may in certain circumstances lose its pathogenicity to man. If, then, the resistance of man to *T. rhodesiense* is indeed greater than to *T. gambiense*, then this factor will in all probability tend to produce the effect suggested. It is also possible that *T. rhodesiense* is actually more sensitive to Bayer 205 than is *T. gambiense*.

Recent work at Entebbe has shown that strains of *T. rhodesiense* vary in their power to use man. It will be against the weakly endowed strains that the drug will be most effective, supplementing the natural resistance of the host. On the other hand *T. rhodesiense* strain LX, with which many of the tests in the Table were performed, was beyond all question strongly pathogenic to man, and only recently isolated from his blood. Protection against this strain is, therefore, a notable and an encouraging achievement.

At the present time, to be on the safe side, I consider that the prophylactic injection of 1–1·5 g. Bayer 205 per adult should be repeated every three months while exposure to infection continues. For biological reasons the strict enforcement of this period in *T. gambiense* areas is recommended. Where *T. rhodesiense* is concerned, I believe the protective effect of Bayer 205 will be greater than against *T. gambiense*, but it must be understood that this last is but an opinion and as yet unsupported by direct evidence.

The examination of these volunteers will be continued later on in the year, when this research will be resumed and extended.

REFERENCES

Duke, H. L.: Final report of the League of Nations International Commission on Human Trypanosomiasis, Geneva, 1928, C.H. 629.

Kleine, F. K., and Fischer, W.: Deut. med. Woch., 1922, ii., 1693.

Mayer, M.: Arch. f. Schiffs.- u. Trop.-Hyg., 1928, xxxii., 528.

Vanden Branden, F.: Ann. Soc. Belge Méd. Trop., 1926, v., 175; 1927, vi., 147.

Yorke, W., and MacFie, J. W. S.: Trans. Roy. Soc. Trop. Med. and Hyg., 1924, xviii., 13 and 33.

Clinical and Laboratory Notes

STREPTOCOCCAL SEPTICÆMIA

TREATED WITH ANTITOXIN AND TRANSFUSION

BY G. GREGORY KAYNE, M.D., M.R.C.P. Lond.

DOROTHY TEMPLE CROSS RESEARCH FELLOW IN TUBERCULOSIS; LATE ASSISTANT MEDICAL OFFICER, ST. CHARLES' HOSPITAL, LONDON

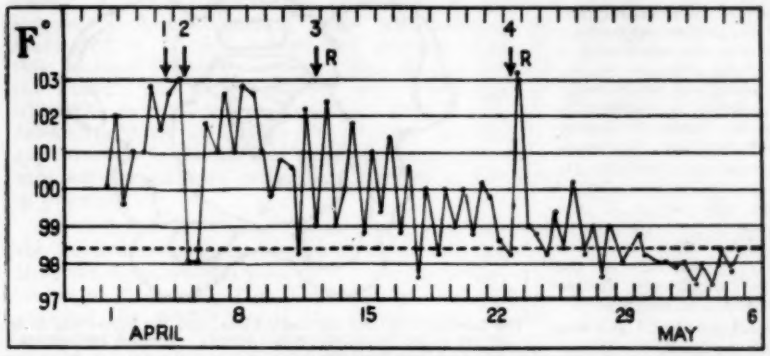
THE attention drawn to the treatment of streptococcal septicæmia by articles in THE LANCET of Feb. 24th and March 10th prompts me to record the following case.

Mrs. A., aged 39, was seen at St. Charles' Hospital on March 31st, 1933. Her last menstrual period had begun on Feb. 24th. She was found to be pyrexial, and a piece of tree bark was removed from the cervix by the medical officer on duty, who transferred her to a fever hospital as a case of septic abortion. She was, however, returned the following day as it was considered there that she had not aborted.

She was first seen by me on April 4th: temperature 101·6°; pulse 108; no vomiting; no rigors; bleeding from vagina; uterus enlarged; cervix admits one finger. Concentrated streptococcal (scarlet fever) antitoxic serum (Burroughs and Wellcome) 40 c.cm. was administered intramuscularly, and later, under a light general anæsthetic, the cervix was slightly dilated, several large pieces of placenta and membranes were removed with ovum forceps, the uterine cavity was explored digitally, and a hot intra-uterine douche followed by intra-uterine glycerin and pituitrin intramuscularly was given. There

was considerable bleeding during the operation. An attempt to administer serum intravenously in the theatre failed; therefore on return to the ward the patient was given a further 60 c.cm. of serum intramuscularly, and treated for shock with morphia and subcutaneous saline.

April 5th: general condition very poor; very pale; temp. 103°; pulse-rate 118; no bleeding from vagina; hæmoglobin 41 per cent. Blood transfusion (350 c.cm. by Keynes's method), 50 c.cm. streptococcal antitoxic serum being given intravenously at the same time, by adding it gradually to the blood. The patient's temperature which had already been dropping since the morning was normal in the evening; pulse-rate 108; intra-uterine glycerin twice daily.



Temperature chart in streptococcal septicæmia. At 1 operation was performed and 100 c.cm. antistreptococcal serum was given intramuscularly. At 2 a transfusion was given and 50 c.cm. of serum was injected intravenously. Further transfusions at 3 and 4. R = rigor.

April 6th: general condition improved; temperature normal, rising to 101·8° in the evening; pulse 120; intra-uterine glycerin t.d.s., Blaud's pill grs. 30 t.d.s. April 7th: temp. 101°; pulse 114; lochia offensive; no vomiting; no abdominal pain. April 8th: temp. 101·4°; pulse-rate 120; respirations 28; nausea and headache; no physical signs in chest or abdomen; lochia very offensive; blood culture taken: growth of hæmolytic streptococcus reported on April 12th. Bluish-black area 3 in. by 2 in. on right buttock at site of intramuscular injection. April 9th: temp. 100° to 102·8°; pulse-rate 100–108; respirations 24; tender swelling over right scapula; Liveroid ½ oz. t.d.s. and ergot mixture prescribed. April 10th: temp. and pulse-rate dropping; discoloured area on buttock breaking down; lochia slight.

On April 12th the temperature had risen to 102·4°, with pulse-rate 120. Blood transfusion (500 c.cm. by Keynes's method) was done and there was a rigor immediately afterwards. Intra-uterine glycerin stopped. April 13th: temp. normal; pulse-rate 112; large sloughing area on buttock. April 15th: deep-seated abscess in region of scapula incised. April 17th: abscess right ankle incised; pus from abscesses reported later to contain *Streptococcus hæmolyticus longus*

On April 19th the temperature was still raised intermittently up to 100°; pulse-rate 90–100; very pale; no lochia. The abscess in the scapular region had tracked down the back and further incisions were made. A large deep ulcer was present on the right buttock. All wounds were irrigated or packed with eusol. On the 20th a large abscess on right buttock (below the level of the ulcer) was incised, and an abscess on the right side of head was drained. A blood count showed: red cells, 3,500,000; hæmoglobin, 46 per cent.; colour-index, 0·66; white cells, 8000; some anisocytosis, poikilocytosis, and a considerable amount of polychromasia seen in film; Arneth count shift to left.

When this blood count was reported on April 23rd, blood transfusion (400 c.cm.) was done. A rigor followed 20 minutes later. April 25th: temp. 98·8° to 99·4°; pulse-rate 90–100; all suppurating areas granulating well. April 28th: abscess right postero-axillary fold incised. May 8th: temperature normal since April 28th, but pulse-rate still 92–100. Blood count: red cells, 4,800,000 hæmoglobin, 64 per cent.; colour-index, 0·66; white cells, 13,000.

The patient's general condition continued to improve and the temperature remained normal; the pulse-rate also dropped to normal from about May 23rd, when all the wounds had healed and the excavated area in buttock had nearly granulated over. She was discharged on June 17th completely cured.

COMMENT

One is tempted to conclude that the administration of the streptococcal antitoxic serum played at least some rôle in limiting the progress of the infection, so that the septicæmia "became localised." The wound in the buttock, presumably due to trauma during the intramuscular injection in tissues devitalised by the general condition of the patient, may, in addition, have acted as a fixation abscess. It is my belief, as the result of experience in other cases, that it is important to *flood* the patient with serum *as early as possible* by giving a very large dose intravenously; but to obviate accidents due to hypersensitivity an intramuscular dose should be given three or four hours before. If an intravenous injection is given at once it is advisable to use a funnel and tubing, run in saline first, then add a drop of the serum (which is thus administered in very great dilution), and watch for symptoms indicating hypersensitivity. If all goes well, the amount of serum can gradually be increased till it is used full strength. It is hardly necessary to add that careful inquiries should always first be made in every case for a history of asthma, urticaria, and the like, and of previous administration of horse serum.

Personally I believe that 40 c.cm. of serum intramuscularly, followed by 60 c.cm. intravenously, is the average dose to employ as a routine in these cases.

I am indebted to Dr. Basil Hood for permission to publish these notes; to Mr. Arthur Gray, who was called into consultation; and to Dr. G. W. Goodhart for the pathological reports.

INTESTINAL OBSTRUCTION

WITH AN UNUSUAL CAUSE

By Tina Gray, M.B. Glasg.

DISPENSARY SURGEON AND HALL TUTORIAL FELLOW IN SURGERY, GLASGOW ROYAL INFIRMARY

On Jan. 17th, 1934, a woman aged 68 was admitted to Prof. Paterson's wards in the Glasgow Royal Infirmary with all the signs of acute obstruction.

The history was as follows. On the evening of Jan. 16th she had been accidentally knocked down by a schoolboy. She fell, injuring her left side, but managed to get up and walk to her home, to reach which she had to climb two flights of stairs. She was seen by her doctor, who could find no definite sign of fracture and advised her to rest in bed: her complaint was that she felt her "inside being dragged," and not of pain. During the night she began to vomit, and the vomitus gradually changed from watery green to foul-smelling dark fluid. The patient, attributing her sickness to gall-bladder trouble, was not unduly

alarmed. From the time of her accident her bowels did not act, and no flatus was passed; previously her bowels were regular. There was no discomfort with micturition and the urine contained no abnormal constituents. Immediately she was seen by her doctor on the 17th she was sent in to hospital.

When examined on admission, the patient, a frail old lady looking desperately ill, was found to be mentally very alert, and though articulation was difficult owing to the dryness of her tongue she gave her history accurately and was inclined to be rather voluble. Her general appearance was toxic. On examining the abdomen she was found to be profoundly emaciated, the skin of the abdomen having that sallow, waxy transparency so often seen with malignant disease. Distension was not marked, but peristalsis was obvious. The symphysis pubis seemed unduly prominent even for such a scaphoid abdomen, but there was no discoloration to suggest extravasation of blood. On palpation the abdominal wall was lax, and she complained of only slight general tenderness. Palpation of the symphysis pubis and left pubic ramus elicited tenderness; but no irregularity of contour could be made out. The vomitus was fæcal. The cachectic appearance of the patient suggested obstruction from malignant disease rather than an abdominal catastrophe due to accident.

Morphia and ephedrine were administered and she was taken into the theatre. When giving the spinal anæsthetic (3 c.cm. of 5 per cent. novocain) I found that she had a very definite lumbar scoliosis. The cerebro-spinal fluid was not under tension.

On opening the abdomen in the median line below the umbilicus, coils of distended jejunum presented. Following the distended loops I came on what at first seemed a firm adhesion to the symphysis pubis. On palpating a definite oblique ridge could be felt running downwards and outwards diagonally to which the bowel was attached. On shining a light into the pelvis a compound fracture of the left pubic ramus could be made out, into which the intestine was firmly wedged (see Figure), the entering loop distended, the other collapsed and worm-like. The peritoneum in the region was purplish and œdematous. It required a strong periosteal elevator to lever the fracture open so as to free the gut. The whole lumen and the edge of the mesentery had been caught, the ptosed condition of her viscera making the accident possible when the fracture gaped. The bowel was perforated in several places by the bone, and when the loop was delivered outside the wound liquid fæces poured from it.

I had to resect about 1½ in. of mangled gut and do a lateral anastomosis, closing the abdomen with drainage. Towards the end of the operation the patient's pulse became very feeble and pituitrin had to be given. She was returned to bed and the shock blanket applied.

The fracture followed the dotted line, and the bowel was caught at the point indicated by the arrow. (From a radiogram by Dr. A. Bruce-MacLean.)

Strychnine and digitalin and rectal salines were given four-hourly through the night.

The patient was definitely improved in the morning. Vomiting ceased after the operation. Her tongue was still very dry and she complained of thirst. Additional to water by the mouth, I gave her 600 c.cm. of glucose saline intravenously. Her bowels moved twice on the 18th after intramuscular injection of acetylcholine. The abdomen was slack, her tongue became moist, and her pulse improved in rate and quality. The improvement, however, did not last. She was rather restless through the night and collapsed in the early hours of the morning, and remedies proving useless she died on Jan. 19th.

I am indebted to Prof. Peter Paterson for permission to publish this case. I have not been able to find a similar one on record.

MEDICAL SOCIETIES

NATIONAL ASSOCIATION FOR THE PREVENTION OF TUBERCULOSIS

THE twentieth annual conference of this association, held in London on June 14th to 15th, discussed from many sides the

National Tuberculosis Scheme

of which we now have 21 years' experience. Sir HILTON YOUNG, who, as Minister of Health, inaugurated the conference, Viscount ASTOR who gave the opening address, and Sir ROBERT PHILIP, who presided, outlined the initiation, progress, and results of the work, leaving it to Dr. A. S. MACNALTY (senior medical officer, Ministry of Health) to fill in details from the public health and medical aspects. While the public, he said, still needed to be informed of the early signs and symptoms of tuberculosis, the outlook on the tuberculosis problem had been greatly changed by the realisation of the social and biological implications of the disease, and the appreciation of the fact that all measures directed towards the health and improvement of the nation generally were important contributions towards the prevention of tuberculosis. He brought forward two suggestions for special consideration in the national scheme: greater attention to contacts, and adequate provision of after-care. Dr. NOEL BARDSWELL (principal A.M.O., L.C.C.), in a survey of tuberculosis administration in London since 1913, drew attention to the L.C.C. scheme of boarding out children from infected homes, and to the provision made for the chronic ambulant, destitute, or homeless patient, in institutions such as Preston Hall.

Sir JOHN ROBERTSON (Birmingham) drew attention to the figures given by the Registrar-General in his last decennial summary (1921–23) of the comparative mortality from tuberculosis among employed and retired men between the ages of 20 and 65. These figures indicated that mortality from all forms of tuberculosis was two and three-quarter times as great among the unskilled as among the middle class, and that the mortality among the skilled artisan was nearly double that of the upper and middle class. This uneven distribution called for investigation; much greater care, he thought, should be taken for contacts in some areas. Young contacts should be kept under observation for as long as five years, facilities being available for those who needed special treatment. He would like to see a number of industries employing young persons—e.g., clerks and shop assistants—brought under the purview of the Home Office with a view to the establishment of more wholesome conditions of work.

THE DISPENSARY UNIT

Dr. G. LISSANT COX (Lancashire) discussing the dispensary unit—a better term, he thought, than tuberculosis dispensary—urged as a fundamental necessity that it should work in close association with the institutional unit. This was best attained when a graded medical staff controlled the united work. The disunity of the two sides of tuberculosis work—institutional and dispensary—was illustrated in London, where two separate authorities controlled them. One or other should control the whole. The most complete unity was achieved when the tuberculosis or dispensary officer and his assistants were in charge of a small institution, say 50 beds, in the area of the dispensary unit, each unit serving an area containing 200,000 to 300,000 in population.

Dr. D. MELVILLE DUNLOP (Edinburgh) recalled that the Departmental Committee of 1912 had laid it down that the dispensary should be a receiving house and centre of diagnosis. This it could only be if it commanded the confidence of the practitioners of the neighbourhood. The tuberculosis officer in charge should be a real specialist in tuberculosis, and not a medical Pooh-Bah. He should have full facilities at his disposal for making a difficult diagnosis, and sufficient time to make such a diagnosis accurate. No one could examine many new cases carefully at one sitting; in many dispensaries, not excluding his own, the hours were too short and too crowded, the dispensary being regarded by many as a sort of general out-patient department for the cure of coughs. Inflated attendances at dispensaries should be discouraged, (*a*) by omitting symptomatic treatment and concentrating on treatment of a specific kind—e.g., sanocrysin or tuberculin therapy, A.P. refills in certain definite cases; (*b*) by discharging the chronic bronchitic or asthmatic cases who came in shoals to the dispensaries for a chat and a bottle of cod-liver oil; and (*c*) by delegating to the home-doctor the observation of ex-institutional cases, to be seen at definite intervals by the tuberculosis officer. Properly paid officer and staff and adequate equipment demanded an outlay which might be prohibitive to small administrative units; he agreed that the solution was the provision of larger units. He felt strongly that the examination of contacts, particularly children, was among the really important functions of a dispensary. The weakness of the present-day position was the concentration on pronounced pulmonary lesions. But the tuberculosis officer interviewing the family might discover "delicate" children with a strong positive tuberculin reaction, who, though not suffering from pulmonary tuberculosis, were none the less suffering from the results of tuberculous infection; steps might be taken to forestall the visceral manifestations of the disease. Dr. Dunlop regretted that the tuberculosis dispensary and the school medical service were not in closer touch; the dispensary might well become an educational centre not only for the patient and his family, but for the medical student.

RESIDENTIAL INSTITUTIONS

Dr. JAMES WATT (King George V. Sanatorium) said that two great factors were responsible for the revolution which had taken place in the residential treatment of tuberculosis of the lungs: the vastly improved technique of X ray photography which had relegated the stethoscope to a place of secondary importance, and the development of collapse therapy. All this had changed the character of the sanatorium from that of a convalescent home to that of a hospital complete with operating room, surgeon, and visiting specialists. The percentage of bed cases had risen from 20 to 50 per cent. or more, necessitating a standard of one nurse to six beds. The practice of graduated work by sanatorium patients had steadily become less common, although the value of occupational therapy was fully recognised. Nursing had greatly improved; systematic training in tuberculosis nursing, tested by examination at the end of a two-year course, was now available at most important sanatoria.

Dr. R. C. WINGFIELD (Frimley) said that much of the excellent work of the sanatoria was being wasted because there was not a close enough personal link between them, the tuberculosis officer, and the general practitioner. In the old days the sanatorium was an independent unit, and stood out as the only method of dealing with pulmonary tuberculosis. This independence and pre-eminence had been mistakenly perpetuated in most developments of the national scheme. The tuberculosis problem could only be solved by efficient coöperation in which the dispensary with its work in the field was the chief unit, the hospital and sanatorium definitely taking a subsidiary place. The present tendency to starve the dispensaries for the benefit of the sanatorium was unsound scientifically and uneconomic in practice. Any local authority that wished to tackle its tuberculosis problem efficiently must be prepared to spend at least as much on its dispensary as on its institutional service.

Dr. J. B. MCDOUGALL (Preston Hall) said that the meagre financial resources available for the bulk of after-care committees had frequently been one of the causes of their ceasing to function. After-care, using the term in its widest sense, had made less progress in point of efficiency than any other branch of the anti-tuberculosis scheme; the relapse of the patient might not be the fault of the sanatorium. It was, in fact, still to be learned that after-care was treatment, without which it was impossible to obtain the best results in at least half the cases. The essential object of the village settlement was to bring active disease to a state of arrest for a period sufficiently long to reduce to a minimum the liability of relapse. It was not a centre for the employment in perpetuity of arrested cases. Dr. McDougall thought the time had come for the N.A.P.T. to ask local authorities to choose between the schemes attempted with more or less success in this and other countries for the medical and economic benefit of consumptive patients. Knowing that after-care was sound clinical medicine, they should ask for larger contributions from national and local exchequers.

COÖRDINATION

Dr. H. P. NEWSHOLME (Birmingham) indicated some of the channels of coördination which were desirable under the conditions of a large city. In Birmingham, where they had made the tuberculosis service into a unit, self-controlled and adjusted to an extent perhaps unusual in national tuberculosis schemes, there was a high degree of coördination between the sanatorium and the tuberculosis dispensary, in its character of clearing house. All admissions and transfers were arranged from the dispensary, whether it was a question of beds for sanatorium and hospital cases, for children, for surgical tuberculosis or for observation, including the transfer of tuberculous patients to and from general and special hospitals, municipal and voluntary. This reduced to a minimum the wastage from unoccupied beds.

REVIEWS AND NOTICES OF BOOKS

Investigations into the Causes of Mental Deficiency

By H. O. WILDENSKOV, M.D. London: Humphrey Milford, Oxford University Press. 1934. Pp. 113. 5s. 6d.

RESEARCH into the family histories of mentally defective patients is being carried out by an increasingly large number of workers in different countries. Systematic inquiries on these lines, however, in which each family is investigated with equal thoroughness, occupy much time. Few medical officers are able to carry out such researches, and, if they do, the work must extend over a period of many years. Dr. Wildenskov, who is medical superintendent of the Keller Institution in Denmark, has now published the results of five years of careful study. Fifty feeble-minded children and 50 idiots or imbeciles were chosen as *propositi*; naturally, larger groups would have been more spectacular, but the care with which these small ones were studied compensates for the absence of greater numbers.

Dr. Wildenskov started with the hope that he would obtain information on the question of the cause of mental deficiency in each case studied. Though he has not been successful in doing this, the data he has presented form a valuable background for future work. In each group of 50 children he investigated the incidence of dullness, feeble-mindedness, imbecility, and idiocy among the relatives. It is to be noted that the term "oligophrenia" includes dull as well as defective individuals, and that it can be applied to anybody with an I.Q. below 90. Comparison of the two groups shows striking differences. For example, oligophrenia was much more frequently found among the parents and sibs of high grade or special school-children than among the corresponding relatives of low grade patients. For special school-children about 50 per cent. of the sibs were oligophrenic; for idiots only about 25 per cent. were oligophrenic. Similarly, for high grade mentally defective children, 37 per cent. of the parents were considered oligophrenic, whereas, for low grade children, only 12 per cent. of the parents came into this category; even when cases of obvious secondary amentia among the idiots were left out, not more than 15 per cent. of the parents were oligophrenic. The same type of phenomenon was observed when more distant relatives were investigated.

These results are introduced by a careful survey of the literature on the ætiology of mental deficiency. Dr. Wildenskov shows that there is a consensus of opinion that inheritance, traumata, and inflammatory conditions of the brain are causal factors. There is no agreement, however, about the ratio of distribution of these causes. Authorities disagree about the importance of syphilis and alcohol. It is pointed out that the traditional division of cases into primary and secondary amentia needs revision, and that the combination of hereditary and acquired amentia is common. Many investigators have expressed their opinion that exogenous causes play a greater part in the causation of idiocy than in the causation of feeble-mindedness. This view was expressed in the Wood Report, and can be traced in the writings of Larsen, Szondi, and many others. There can be no possible chance of settling what percentage of patients is due to exogenous causes in any grade until there is agreement about what are to be the criteria of hereditary influence. In presenting the results of his researches, Wildenskov leaves this point undecided. His material undoubtedly shows that the incidence of defect is greater in the families of the high grades than in the families of the low grades, but if the families of the *propositi* are grouped according to whether one or both parents are oligophrenic the difference in familial incidence among the children, for high and low grade *propositi*, is scarcely significant. We are almost forced to the conclusion that, if the incidence of defect among the children of defectives is a criterion of hereditary influence, heredity must be almost as potent a cause among low grade as among high grade cases. Is it not possible that the phenomenon which Wildenskov, in common with so many observers, has noticed is partly due to the selection of cases who enter institutions? The remainder of the effect might be due to the fact that low grade patients seldom themselves have children, and that recessive characters are more likely to be discovered among the low grades.

The monograph is a stimulating and original piece of work, and it is obvious that no trouble has been spared in order to arrange the data in a useful way. The subsidiary problems, such as the incidence of epilepsy among sibs of defectives and the diagnosis of amentia due to trauma or cerebral infection, are treated in an interesting way. Dr. Wildenskov concludes by saying that he thinks future work on mental deficiency ought to be based on material that is uniform as to the degree of defect. A good bibliography of recent papers on the subject is supplied.

Diseases of the Eye

Seventh edition. By Sir JOHN HERBERT PARSONS, C.B.E., D.Sc., F.R.C.S., F.R.S., Consulting Ophthalmic Surgeon, University College Hospital; Consulting Surgeon, Royal London (Moorfields) Ophthalmic Hospital. London: J. and A. Churchill. 1934. Pp. 695. 18s.

IN its seventh edition this popular text-book retains its character of a sound conservative statement of all branches of ophthalmology. The subject matter includes anatomy, optics, the neurology of vision (a strong chapter this), methods of examining the eyes (the slit lamp is mentioned but not described in detail), many chapters on diseases of the eye and its adnexa, ocular disorders of motility, ocular manifestations of diseases of the nervous system and of other diseases, and finally on the causes and prevention of blindness and the hygiene of vision. Possibly in the next edition some information on the certification of blindness might be added. Recent advances are noted but the advanced student will have to turn to more specialised works for detailed descriptions. The chapter on physiology has been largely rewritten in this edition; it is devoted mainly to a discussion on the formation of the intra-ocular fluid and its relation to intra-ocular pressure. The dialysation theory of Duke-Elder is favourably considered, the conclusion reached being that both dialysation and filtration play a part in the formation and disposal of the intra-ocular fluid and the maintenance of intra-ocular pressure. In the chapter on glaucoma the pathology is discussed on orthodox lines, the chief stress being laid on interference with filtration at the angle of the anterior chamber. The student who reads the chapter on detachment of the retina might hardly realise how greatly the prognosis has improved since the discovery by Gonin of the importance of retinal holes and of the methods of closing them.

The statement in the text that the best of these methods is probably diathermy will be fully endorsed by ophthalmologists.

This work retains its vitality, and the student who adopts it as his main text-book on ophthalmology is not likely to regret his choice.

Le sinus carotidien et la zone homologue cardio-aortique

By C. HEYMANS, Professeur de Pharmacologie et de Pharmacodynamie à l'Université de Gand; J.-J. BONCKAERT, Professeur de Thérapeutique générale à l'Université de Gand; et P. REGNIUS, Agrégé de l'Université de Gand. Paris: G. Doin et Cie. Pp. 334. Fr.55

THIS valuable monograph is a synthesis of the principal facts established concerning the rôle of cardio-aortic zones together with a detailed account of the recent researches conducted by the authors at the Gand University. The problem has been approached from various aspects, and detailed and careful records are given which should be extremely useful. The book is divided into five sections. The first part deals with the morphology of the carotid sinus and cardio-aortic zones not only in man but in a large group of animals. The next section is concerned with the physiological functions of these zones under the headings of their relation to the circulation and to the activity of the respiratory centre; their reaction to physiological chemical substances, as for example Ringer's solution charged with CO_2 or insufficiently aerated blood; their influence on other physiological functions, as for example on the gastro-intestinal, ocular, and pupillary reflexes; and finally their influence on the equilibrium of the autonomic and sympathetic systems. The third section deals with the pharmacological aspect of these zones, most important from the point of view of the physician and the anæsthetist. To give one small example of its clinical bearing, it appears that the cardio-inhibitor reflexes are intensified during chloroform or ether anæsthesia; this is of particular moment in operations on the neck, particularly in cases of hyperthyroidism where the surgeon may by traction on the gland excite the carotid sinus reflex and produce hypotension and strong cardiac inhibition. The fourth section deals with the principal factors, physiological and pathological, which may modify the reflex function of the cardio-aortic and carotid sinus zones, also the effect of section of the nerves which innervate them. The final and most important chapters discuss the clinical aspect of these zones. A correlation is attempted between experimental findings and clinical conditions. We are still, however, only on the fringe of discovery as to the workings of these reflexes, and the practical application of most of the research described is still to seek.

EUGENICS IN PRACTICE

A Series of Essays suggested by the Report of the Brock Committee

VII.—THE POLITICAL OUTLOOK

LEGALISATION of eugenic sterilisation in this country has been definitely "put on the map" by the first recommendation of the Departmental Committee which runs:

> "Subject to the safeguards proposed, voluntary sterilisation should be legalised in the case of: (1) a person who is mentally defective or who has suffered from mental disorder; (2) a person who suffers from, or is believed to be a carrier of, a grave physical disability which has been shown to be transmissible; and (3) a person who is believed to be likely to transmit mental disorder or defect."

It may be well to consider what appears to be the prospect of legislation upon this subject. Political prophecy is always a hazardous business, never more so than in these times when so many events without precedent or probability occur, and when domestic no less than world politics are subjected to turns of the wheel of fortune such as no man could have anticipated as being even remotely possible a decade ago. There is a further factor for which allowance must be made in trying to form this estimate, which is that the opinion of any would-be prophet is liable to be subconsciously influenced—more upon this subject than upon most—by his or her personal views in the matter, so that the wish is very liable to be the father of the thought.

GROWTH OF PUBLIC OPINION

The objector to sterilisation, who usually takes an uncompromising stand upon religious grounds, will assert that the operation is so immoral that its legalisation is unthinkable, and that such is the organised voting strength supporting his point of view that no Government will dare to risk taking action. The person, and especially the recent convert to the idea, who sees in the sterilisation of hereditary defectives a clear road to social progress, and to a substantial reduction in the sum of human misery, tends to under-estimate the difficulties, political and legislative, and to become an enthusiast who notes the rapid growth of favourable public opinion and concludes that the time is ripe for parliamentary action.

The growth of opinion in favour of sterilisation has certainly been very remarkable during the last few years. Although the two subjects can only be indirectly connected, there is no doubt that it is the almost universal spread of the knowledge and practice of birth control throughout the population that has paved the way for interest in sterilisation, and has created a public which is receptive to what would only a few years ago have been regarded as unthinkable. The present-day readiness to consider sex problems as natural and to be discussed in a rational manner has, of course, played its part. Not long ago, even among educated and thinking people, few had even heard of sterilisation except by castration, or were ready to give the question of human sterilisation serious consideration even if it were brought to their notice. So far as serious consideration was concerned this applied even to the bulk of the medical profession. To anyone who was interested in the subject in those now seemingly remote days the change that has taken place, and is taking place, in public opinion is nothing short of miraculous. Publication of the Brock report has crystallised the issues. What had so recently been the vague beliefs of a few people commonly regarded as cranks, supported by evidence of doubtful reliability, and by statistics not fairly comparable to British data, received the endorsement of an impartial and weighty committee after a thorough and objective survey. While some previously held views had to be modified, others were reinforced; while some old evidence had to be discarded, much fresh and weighty evidence was produced. But at least the protagonists of eugenic sterilisation could feel for the first time that they stood upon indisputably firm ground.

PARLIAMENTARY PROCEDURE

It is interesting to look back at the first attempt to bring the question before Parliament. On July 21st, 1931, Major A. G. Church, then a member of the Medical Research Council, introduced from the Labour Benches a private Member's Bill under the rule which allows two speakers, one for and one against, both limited to 10 minutes. This Bill, which sought to legalise voluntary sterilisation for mental defectives, was rejected by 167 to 89, with voting irrespective of party. A Bill introduced under the "10 minutes' rule" has in reality a negligible chance of being passed into law if it is faced with the slightest opposition. Indeed, the procedure is used mainly for propaganda, and for this purpose it is not so futile as it may appear to those critical or ignorant of parliamentary procedure. With very few exceptions only measures introduced by the Government of the day, with its full authority, and with a previously ascertained confidence of general assent from its supporters, stand any chance of becoming law. Many complaints are raised nowadays at the slowness of parliamentary procedure, but it may be doubted if many of those who complain realise the full implications of their demand for speedier action. Few will disagree that we suffer from too many, and not too few, laws. The existing practice, that at first glance may well appear to be so cumbersome, has in reality been evolved through the centuries with two main objects in view. First, to ensure that there shall be adequate opportunity for the discussion of all measures before they can be passed into law, and to ensure that no minority shall be ruthlessly overridden by a large or impetuous majority. Secondly, to fix the responsibility for all legislation upon the Government of the day. It is when subjects are brought forward that cut across ordinary party alignment, as where religious issues are involved, e.g., in divorce law reform, or in a reform of the gambling laws, that any Government is embarrassed and becomes hesitant. A party depends upon votes, and upon such issues votes can only be lost and not gained. Normal supporters may be disaffected, but normal opponents are not to be won over. The stormy passage threatening the recently issued Bill to deal with betting and lotteries is a case in point. In this case refuge had been taken in the usual Royal Commission. And had action of some sort not been forced upon the Government by such serious gaps discovered in the existing (and obviously obsolete) state of the laws as that which permitted the huge annual exit of money to Dublin over the Irish sweepstake, or by the discovery of certain interests that they could circumvent the law against the (promiscuous) use of their own totalisators, it can hardly be doubted that the issue would have still been shunned.

It is into this category of cross-party measures, and closely comparable with divorce law reform, that legislation upon sterilisation must be put. It may be safely assumed that an overwhelming majority would like to see a rational reform of the divorce laws. Yet they may not see it for many years. Sterilisation will probably be saved from such delay by reason of the greater weight of general public interests, as opposed to scattered private interests that is involved. But for this fact a resolute minority, even if small and diminishing, would certainly deter any Government from taking action, despite the fact that there is already in the House of Commons, and probably in the country, a majority in favour of action upon the lines of the Brock Committee. When Major Church's bill was introduced the Labour section of the Opposition in it fastened upon "class legislation" as being the line to take in the attack. Yet it is probable that on the whole labour-socialists are more advanced in favour of sterilisation than their opponents. But the average Labour Member of Parliament, or candidate, is far less free to express his personal views, or to take the slightest risk, than his conservative opposite number. In the present vague state of opinion upon sterilisation in the country few members of any party will gratuitously risk losing even a few hundreds of votes. But it may be observed that in the few constituencies where sterilisation has as yet been squarely put and explained to the electors, it has been very well received. However, in the same way that the belief has captured the imagination of so many Labour voters that a restriction of births will tend towards raising the status of the wage-earner, so is a realisation spreading of the more easily established truth that unorganisable and (with exceptions) unskilled defectives—something approaching 250,000 of them in the labour market to-day—are a drag upon wage standards and social progress, a burden upon the social services.

ALLEVIATION OF FEARS

At the present time, omitting opposition upon religious grounds—which except perhaps in the case of the Roman Catholic Church is rapidly declining—the cries of objection to legalising eugenic sterilisation that the politician fears are broadly three in number. First, "class legislation," a declining and surmountable objection. Secondly, the charge that it will not prove possible to maintain the voluntary character of the operation. Thirdly, that grave abuses will creep in, such as increased prostitution, promiscuity, or sex offences, and the spread of venereal disease. It will only be when the answers to these fears—all, of course, faithfully dealt with in the Brock report—have attained as wide a circulation as the fears themselves, that any Government will dare to introduce legislation. It is probable that the public will get clear upon these points much more rapidly than is generally supposed. Only those who have made it their business to feel the public pulse upon this subject over a period of years can appreciate how rapid is the quickening that is now taking place. Improvement in the means of ascertaining mental defect, and the increasing realisation of its extent, coupled with need for scrutiny of every item of expenditure, is converting local authorities and charitable organisations (though these latter hesitate to announce the fact) wholesale to taking a favourable attitude towards sterilisation as a way of reducing their burdens. The circulation of the Brock report has far exceeded anticipation. The medical and teaching professions have swung over and will increasingly exercise their influence upon the public. There is, indeed, a danger that demands will be made to apply sterilisation far more widely than sure knowledge justifies, and with the expectation of results beyond the possibility of realisation. But the object lesson provided by recent German eugenic legislation will help our own people to keep a proper sense of proportion. The success of sterilisation in practice in Alberta, its progress in other dominions and in the Scandinavian countries, will be closely watched in this country.

It is then to outside Parliament that we must look at present in estimating the prospect of legislation. Political action in this field as in others will follow and not lead public opinion. Unforeseen events may hasten or delay enactment—the example of the Betting Bill is not without significance—but the legalisation of eugenic sterilisation is certain to come.

THE LANCET

LONDON: SATURDAY, JUNE 23, 1934

SUICIDE

THE problem of suicide is an insistent one in modern society. It has for many centuries been examined by moralists, physicians, and jurists. It is appropriate that it should now also hold the attention of statists and sociologists for they are closely in touch with those predominant burdens that contribute to the greater prevalence of suicide in our civilisation, especially among those who live in cities. The statistician of the Metropolitan Life Insurance Company has lately published a valuable contribution to this subject [1]; it may be supposed that he was led to this study by consideration of the fact that American life insurance companies paid over 75 million dollars in suicide claims during 1932. Access to the records of a very large insurance company has provided him with material from which it may be seen, as from the Registrar-General's reports in this country and other statistical data, that the frequency of suicide is influenced by a number of environmental factors of which industrial conditions are not the least important. But, as was pointed out recently in these columns, the exact relations between mental disorder and unemployment must be to a varying extent a matter of surmise. One cannot hope from statistics for a clear indication of the chief causes of suicide, but significant correlations emerge from these figures. How far racial and climatic peculiarities are responsible for variations from country to country is not clear, but such variations are notable. The highest rates are found in Germanic countries and Japan, the lowest in Spain and the Irish Free State. Where an authoritative highly socialised religion is widely observed, suicide is less common. Men are more prone to suicide than women, older people than young, white men than negroes, immigrants than settled inhabitants, and city dwellers than rural ones. The seasons, economic conditions, marriage, and religion all show a relatively high correlation with the suicide rate. It is very clear, for example, that the suicide rate in the United States has varied in close relation with the "business index" between 1910 and 1930. But from such a general finding Dr. DUBLIN refuses wisely to infer a simple causal relation.

The sobriety of statistical analysis is refreshing in a field where psychological conjecture is sometimes undisciplined, as may be seen from the latter, vaguer part of this book. It is incontestable that there are also inner or constitutional factors which are of equal importance with the environmental ones in determining suicide. There are so many circumstances in which suicide may be attempted, such a gulf often between the attempt and the lethal act, that no single explanation or simple cause can be sufficient. Those who deliberately, and it might be said rationally, act to avoid what would be unendurable, cannot be accounted for in the same way as an obsessional who yields to a suicidal impulse or a schizophrenic who obeys a hallucinatory voice. All of these are open to psychological study, from which much may be learnt, but there is still no psychological interpretation which covers all the phenomena. Many such interpretations are fanciful and cannot be verified, others provide the means for a useful estimate of the risk of suicide in a particular distance. The full interpretation of suicide must be a biological one, derived from a pooling of genetic, social, comparative, and psychological data.

The prevention of suicide is an urgent matter, for in this country as in many others the number of people who kill themselves is apparently increasing. Doctors have here an important part to play. Social and religious factors are not within their control except in so far as they are also citizens. But that large number, possibly the majority, of suicides who have sought medical advice for a mental illness, however mild or masked the suicidal aspect, must be regarded as a special responsibility. There is no doubt that ignorance of psychiatry is responsible for ill-judged advice sometimes given to patients who need hospital or at any rate skilled supervision. A sea-trip, an exhortation, or a placebo is no substitute for constant care and psychiatric treatment. Although it cannot be denied that in many cases the likelihood of suicide could not have been foreseen by the most experienced psychiatrist, there are others in which timely measures could have been taken. Fuller knowledge of the psychiatric indications is therefore much to be desired so that the doctor, without being an alarmist, can either warn relatives and advise treatment, or, it may be, reassure where there is needless alarm.

[1] To Be or Not To Be. A Study of Suicide. By Louis I. Dublin, Ph.D., and Bessie Bunzel, M.A. New York: Harrison Smith and Haas. 1933. Pp. 443. $3.50.

DIURNAL INCONTINENCE IN WOMEN

ONE of the most distressing sequelæ of damage to the pelvic floor in women is lack of complete control over the sphincter of the bladder, leading to incontinence of urine when walking, coughing, or engaging in other activities involving abdominal strain. Although the symptom is not unknown in young women and in those who have not borne children, it is much more commonly found in women over forty, especially in association with a history of frequent labours. The patient with incontinence may show evidence of cystocele, but, as is pointed out by J. THORNWELL WITHERSPOON in a recent communication,[1] it is quite usual for either condition to occur separately. Any severe degree of prolapse is, in fact, more likely to be complicated by retention of urine than by incontinence. Examination of the patient complaining of incontinence may reveal no abnormality until she is asked to strain in the squatting position. The characteristic displacement, as originally described by VICTOR BONNEY, is then a wheeling

[1] Archives of Surgery, 1934, xxviii., 548.

of the organs around and under the subpubic angle until the urethra comes to point upwards and forwards. Damage to the anterior wall of the vagina at the time of parturition may be caused by the forward pressure of the fœtal head; it may even be accentuated by efforts to save the perineum. This injury commonly involves the fascial supports of the bladder, but Witherspoon holds that the damage causing incontinence alone is at a different level from that causing cystocele alone. True cystocele is a hernia of the bladder between the fascial layers, and only when it is associated with weakness of the posterior aspect of the neck of the bladder and of the urethra is it likely to be complicated by incontinence.

The fascial sheath which surrounds and supports the bladder is a much firmer structure anteriorly, where the trigone and the anterior part of the bladder lie on it, than posteriorly, where it separates the bladder from the vaginal wall. In front there is a strong attachment of the sheath to the pubic bone and to the under surface of the fascia of the rectus abdominis and of the pyramidalis, and at the sides it is attached to the levator ani. The sphincter muscle lies embedded in the supporting structures of the trigone, so that injury to these structures is likely to involve the sphincter and the bladder neck. With such damage, caused as it commonly is by pressure from behind, there follows a relaxation of the neck of the bladder, a dragging on the fascial attachments to the pubic bone anteriorly, and a funnel-shaped deformity at the neck of the bladder. The sphincter is acting at a mechanical disadvantage and tends to be relaxed. A reflex nervous factor then complicates the condition, for, once a little urine passes the sphincter, immediate cessation of micturition is very difficult to achieve on account of an involuntary inhibition of sphincteric control. Weakness of the anterior vaginal wall is liable to produce the same funnel-shaped deformity of the bladder neck. The cervix may be pushed downwards piston fashion every time there is an increase in intra-abdominal tension and may cause a dragging action on the base of the bladder. Weakness of the perineum has not this effect, and from the point of view of treatment, it is important to realise that perineorrhaphy is powerless to cure incontinence, although, of course, perineorrhaphy and colporrhaphy should be combined with the operation for lack of sphincteric control where necessary.

The operation recommended by Witherspoon aims at narrowing the neck of the bladder and the urethra and establishing a "point d'appui" for the action of the sphincter. A curved incision is carried round the anterior lip of the cervix and another incision made at right angles to it. The base of the bladder is exposed by dissection. The urethra, and especially the position of the sphincter, is defined by insertion of a Pezzer catheter. By means of two tiers of mattress sutures the tissues of, and those adjacent to, the neck of the bladder are enfolded and imbricated on themselves. One stitch is carefully placed above the sphincter on the neck of the bladder. By means of the plication effected by these stitches the sphincter and the posterior urethra are narrowed. As much as possible of the musculo-fascial sheath below the bladder is preserved and this is imbricated on itself. The mucous membrane edges are trimmed and united. An in-dwelling catheter is employed for six to eight days, or, alternatively, the patient is treated by frequent catheterisation. The results which Witherspoon has obtained by use of this method have been encouraging. In 13 cases, he says, the end-results are as yet undetermined, but of 21 others, there are only 2 failures, 14 are cured, and 5 improved. He stresses the importance of early repair of any damage occurring at the time of parturition. This should, in his opinion, be carried out as soon as involution has taken place.

A MIRROR FOR DOCTORS

IN the MacAlister lecture, printed upon another page, Dr. ROBERT HUTCHISON has brought together an anthology of literary references, complimentary or otherwise, to the medical profession. The apparent predominance of the uncomplimentary will cause neither anxiety nor surprise. Famous wits produce their most memorable pleasantries when a spice of malice seasons the epigram; and a single patient's misadventures give the cynics a better opportunity than ninety and nine cases that go not astray. As the lecturer observed, the statistical proportion of praises to dispraises is perhaps the less important, inasmuch as one side of the ledger tends to cancel out the other. Some of the disparaging remarks originated a long time ago in a less scientific age. We may hope, with Dr. Hutchison, that doctors have risen in esteem as they have gained in efficiency. It may be true, as he suggests, that the individual practitioner is better liked than the profession as a whole; criticism is mainly the result of inability to understand the medical attitude towards lapses in professional conduct and towards excursions into therapeutics by the unqualified. That the attitude is the expression of the intention of the law eternally escapes comprehension.

A recent writer scarcely encourages the medical profession in self-complacency. In "The Citizen and the Law" by "Solicitor" [1] a vivacious chapter is devoted to doctors. The author, though his anonymity prevents any comparison of his credentials with those of Lord MACMILLAN, who lately put in a kind word for the medical profession,[2] has evidently met the medical witness in the county court, at petty sessions, and before the coroner. While instructing the citizen in the law not only as it is but also as it might be, "Solicitor" frames a general indictment against doctors, even if he finds it his duty to mention certain circumstances in mitigation of punishment. Doctors, he says, have lost caste. Publicly they are praised and lawyers are reviled, but in private conversation the converse is apt to occur. Many of his adverse comments are connected with a similar contrast between the two professions of law and medicine. It is notorious, he says for instance, that medical experts will

[1] The Citizen and the Law. By Solicitor. London: George Routledge and Sons, Ltd. 1934. Pp. 249. 7s. 6d.
[2] See THE LANCET, May 19th, p. 1071.

charge for giving evidence in workmen's compensation cases double the sum earned by learned counsel for conducting the whole proceedings; hence, he remarks, it is small wonder that doctors "are not so highly thought of as they used to be." Of medical remuneration in general he complains that the legal basis of fees—entitling the practitioner to whatever the jurymen think reasonable, regard being had to his eminence and the distance he has to travel—leaves doctors free to charge pretty much what they please. "The extent of what, if they were lawyers, would be called their extortions is limited only by competition among themselves"; in country districts the charges are sometimes "astounding." He adds, in words which will be reassuring to some of our readers, that it is generally useless to defend an action brought by a medical practitioner to recover his fees. "Solicitor" would be more than human if he did not point out that lawyers' bills can be reduced on taxation while doctors' bills cannot. He would like all doctors' bills to be reviewed by district commissioners, and he cannot see what valid objection the medical profession could make to his proposal. There are plenty of other counts in the indictment besides avarice. A brief reflection on unnecessary surgical operations is followed by allegations of abuse of professional secrecy. The standard here with regard to hospital patients is described as deplorably low. Doctors, it seems, collect information in the hospital wards which is afterwards used against the patient in workmen's compensation and accident cases. The worst offenders in this respect, says "Solicitor," are the eminent specialists who are retained by insurance companies and who, by using knowledge gathered in whatever hospital they adorn, have shaken the confidence of the working classes in our hospital system.

"Solicitor" in support of these charges is without evidence which would stand an elementary cross-examination. Who are those eminent specialists, and what proof is there that their pliability has earned the distrust of the public? Again, what reductions in fees do solicitors give to clients who cannot afford to bring their distresses into the arena of the law courts without substantial help? It is considered reasonable for a solicitor to say, "I will not work unless I am paid," while anything approaching such an attitude on the part of the doctor is called callousness. Coroners' juries, if unfortunately an inquest should arise, are sometimes more pictorial in their estimate of the doctor's conduct. And when "Solicitor" speaks of the astounding charges made by eminent doctors for giving medical evidence, reasonable people, and especially people with legal minds, would suggest that if a particular specialist is invited to give evidence and a particular barrister is entrusted with a client's interests, the charges in either case will be high, and possibly those of Buzfuz will be higher than those of Firmin. "Solicitor" attributes a decline of the medical profession in public esteem partly to the introduction of the panel system, which has resulted, he says, in inferior care being bestowed on the less remunerative patients; he appears to be unaware of or unfairly silent upon the plight which those patients submitted to before the passing of the Act. Another cause of diminished prestige is declared to be the scandal of expert evidence. Here, as might be expected, we are told of the usual two eminent doctors who enter the witness-box and declare upon oath that there is nothing wrong with the workman and that work will be the best thing for him, though presently two equally eminent witnesses, also upon oath, state their conviction that any exertion on the workman's part will be certainly injurious and probably fatal. We all deplore this sort of discordant testimony, but medicine is admittedly not an exact science, and advocates search to bring about exactly the confusion described.

In case any should take "Solicitor's" comments too seriously, as from one qualified to criticise, we might add that evidence for qualification is lacking or even negative. For example, "Solicitor" states that vaccination is "often the cause of encephalitis lethargica," and cites, when speaking of the standard of professional skill and training, an anonymous general practitioner as an authority for the statement that any good plumber could be taught to be a surgeon in six months. We might perhaps have begun with this sample of "Solicitor's" capacity for writing accurately on the relations between the doctor and the public, and then have said no more.

MEDICAL MUSEUMS

THE International Association of Medical Museums was founded in 1907 and under the enthusiastic care of Dr. Maude Abbott it has done most useful service. The membership of the Association is not large: there are only 23 names under "Great Britain" in the list. But those who have a real passion for museum work are few, and for the most part pathological museums are rather perfunctory collections of bottled specimens which serve as texts for teaching and examinations. No museum however perfect can of course replace the assiduous study of the fresh post-mortem, where so much is learned from colour, texture, and substance. But there are many conditions with which it is desirable that the student should have at least some objective acquaintance which chance will not throw in his way, and no one who has seen such exhibitions as that of Dr. S. H. Daukes in the Wellcome building can doubt that all curators might with advantage reconsider their methods of presentation. No museum will be much good unless someone is putting his heart into its perfection and giving it the continuous loving care which it needs. And such an organisation as the International Association is valuable because it keeps curators in touch with what other devotees are doing elsewhere and with the technical methods which they elaborate. The last number of their publication—the *Journal of Technical Methods and Bulletin of the International Association of Medical Museums*—issued from McGill University in Montreal announces some changes in policy. The journal will in future be issued regularly once a year and its scope will be more strictly limited to museum and pathological technique with, we are glad to see, the congenital abnormalities of the heart in which Dr. Maude Abbott has so happily specialised. The number contains a great deal of interesting information and provides much and varied proof of the value of the work which the International Association has done and proposes to do.

ANNOTATIONS

REGISTRATION OF FOREIGN DOCTORS

Not long ago we gave an account of the first year's working of the Academic Assistance Council in its task of assisting university teachers and investigators unable to carry on their work in their own country on grounds of religion, political opinion, or race. Assistance was not confined to German exiles, and the resources of this council enabled it to make maintenance grants to 49 scientists or scholars and to place 129 others. It was no part of this council's task to help medical men with foreign qualifications to find openings for practice in this country. It is however well known—and has been the subject of some adverse comment—that the Conjoint Board of Scotland is enabling a number of these foreign doctors to take the final qualifying examination after a short course of study. It was reported to a council meeting of the British Medical Association on June 6th that about 180 foreign doctors are availing themselves of this concession, and the chairman of the B.M.A. council said it was expected that about 150 of them would remain in Great Britain and Ireland, where an attempt would be made to place them in cities where there is a large Jewish element. Of the remainder some, he said, might go to South America, but there was every reason to believe that not a single one of them would find his way to Australia, New Zealand, or South Africa. They themselves had no money, and there was no body which had the funds necessary for the payment of passage money. The practical problem was therefore not that of safeguarding the Dominions and Colonies from inundation, but of dealing with at most 150 medical persons who would be settling in this country during the next 18 months for such period as the Home Office would allow them to stay. The Dominions Committee of the B.M.A. expressed the opinion that it was desirable to increase to three years the period of study in this country required before admission to a final qualifying examination.

THE PRODUCTION OF ARTIFICIAL PYREXIA

WE have recently considered in these columns[1] the thermostatic control of the warm-blooded animal and some of the outcomes of the attempt to evade this control and to produce artificial fever, local or general. It is important to be aware of the nature of the agencies employed. Until recently the term "diathermy" was limited to the production of heat in the human body by the passage of oscillating currents with a frequency of about 1,000,000 a second. These were generated by the discharge of a condenser through a coil of suitable inductance, or in some of the newer machines by causing a thermionic valve to generate oscillations. The mechanism in the latter case is more difficult to understand than in the simple spark machine, but it is analogous in some degree to the action of the balance wheel or pendulum of a clock. In the simplest arrangement, two circuits each containing an inductance and capacity are connected to the appropriate electrodes of the valve, and are at the same time so situated that they are inductively linked with one another. In this state any slight variation in one circuit will produce an enhanced variation in the other, owing to the amplifying properties of the valve. This induces a second impulse back into the first circuit, and under suitable conditions the valve will break into a sustained oscillation which continues as long as power is supplied to the circuit. The frequency of the oscillations produced depends entirely on the electrical constants of the circuits employed, but the intensity of the high-frequency circuit is a function of the size of the valve and its capacity for taking reasonable power without overheating. In recent years there has been considerable investigation of the action of currents of still higher frequency, of the order of 10 million a second. Such currents have been obtained from valve outfits almost exclusively, though one type of spark instrument suitable for local treatment has been made in this country. When such high frequency is in use, the patient is placed between two insulated plate electrodes which are not in contact with the skin, the tissues of the body forming part of the dielectric of a condenser. Smaller plates are used when local treatment is intended. In another form of instrument recently devised, the Inductotherm, the currents are produced in a flexible insulated cable which is wound round the body or part to be treated. Such an arrangement would lead to a different distribution of the induced currents, but there is no essential difference between the two methods. In both cases the observed rise in temperature can be regarded as the result of induced currents of high frequency in the body. Merriman, Holmguest, and Osborne[2] maintain that there is a difference in conductivity of various tissues towards these new currents as compared with diathermy, but it would be premature to deduce this from the results of experiments in which the methods differ so widely in detail. There is some difficulty in finding a suitable term for the description of the new therapeutic agent. In America the word "radiothermy" has been suggested as being the production of heat by currents such as are used in wireless telegraphy. But the term might lead to confusion with radiant heat. There is a tendency to lay emphasis on the presence of electro-magnetic radiation as being the heating agent, which does not seem to be justified by consideration of the machinery used. The fact that the frequencies in question are the same as those used in so-called short-wave wireless has suggested the term "short-wave diathermy." While this may not satisfy everyone, the term is convenient and it emphasises the relationship of the new agent to the original diathermy current.

HÆMATOPORPHYRIA

A RECENT number of *Medicine* (Baltimore) contains a very complete review[3] of this rare but interesting condition, together with an account of two cases which came to autopsy and offered material for the study of the nature of the histological changes in the nervous system. After explaining that hæmatoporphyrin is not actually the pigment involved (for only uroporphyrin and coproporphyrin are found in the urine), the authors distinguish four types of the disease—chronic, congenital, acute toxic, and acute idiopathic. The first two are characterised by the development of certain skin lesions on exposure to light, and the last two by symptoms resembling Landry's paralysis so closely as to suggest the advisability of a careful spectroscopic examination of the urine in all such cases. It is an interesting

[1] THE LANCET, May 19th, p. 1075, and May 26th, p. 1129.

[2] Amer. Jour. Med. Sci., May, 1934.

[3] Mason, V. R., Courville, C., and Ziskind, E.: Medicine, 1933, xii., 355.

question, which is not finally settled, whether drugs such as sulphonal can actually produce hæmatoporphyria, or whether they merely act as exciting causes in persons already exhibiting the disease in a latent form. While the chronic types are relatively benign in character, the prognosis in the acute forms is bad. No treatment appears to be of any avail, but calcium is recommended on theoretical grounds. The origin of the pigments is still uncertain. The older theory of a disturbance of hæmoglobin katabolism is questioned by Fischer, whose work makes it extremely probable that neither uroporphyrin nor coproporphyrin can be derived from hæmoglobin. It would appear that they are synthesised from ingested pyrrole compounds, principally by the bone-marrow. This is a process which normally occurs only to a slight extent, but is much more prominent in fœtal life and in certain birds; it probably represents a stage in the synthesis of hæmoglobin. The suggestion is of a reversion to a more primitive level of pigment formation, in fact a kind of atavism. This theory, which implies perhaps the lack of specific enzymes, agrees well with the observation that congenital hæmatoporphyria is usually inherited as a Mendelian recessive.

MENTAL DISORDER ASSOCIATED WITH PREGNANCY

It has generally been believed that the insanities occurring in association with pregnancy have a good prognosis, but clinical studies of any large series of cases are hard to find. Dr. C. B. Bamford has recently analysed [1] the 97 cases admitted into the Rainhill Hospital between 1883 and 1933. He believes that these psychoses only form one-tenth of the insanities associated with reproduction, and he also concludes that in 60 per cent. of his cases some form of mental disability was present before conception. Of the 97 cases, 25 were defectives or epileptics; schizophrenic or manic depressive signs had already manifested themselves in 23 cases before the outbreak of those serious abnormalities for which detention became necessary. The determination of the point at which mental disease actually began was by no means easy, and it is perhaps surprising that 35 per cent. of the patients, including half the epileptics, made a complete recovery. The absence in the series of any evidence of a toxic or exhaustive factor is striking, and it points to one essential difference between gestational and puerperal cases. In the former, constitutional factors and previous signs of faulty stock are to be expected; in the latter it is toxæmic concomitants which are generally easy to find. That a psychopathic inheritance was only recorded in 17 cases may well be due to lack of interest in this matter in the earlier period covered by the review; it would be difficult to believe that unstable heredity was present in less than 20 per cent. of these potential psychopaths. Dr. Bamford notes that confusion was present in 23 of the 34 recovered cases and compares this finding with the absence of recorded exhaustion or intoxication. It seems clear that the altered metabolism of pregnancy precipitates mental disorder in suitably constituted persons as it produces eclampsia in others differently constructed. All the cases were much worse at the time of delivery and most of them only began to improve after the second month. In view of the recovery-rates, Dr. Bamford questions whether premature termination of the pregnancy is advisable. In the Rainhill series it was never attempted. What is of present-day interest is the high percentage of psychopaths among the cases, and the question of limiting fertility naturally arises. Whilst the prognosis appears good it is less so than is commonly taught.

[1] Jour. of Ment. Sci., January, 1934, p. 58.

RUNNING AND WALKING

At full speed a champion sprinter attains a velocity of 23¼ miles per hour, a performance which compares not unfavourably with the racehorse's 36 miles per hour. It must be conceded, however, that the quadruped maintains this speed over the Derby course of a mile and a half; a runner over the same distance would be capable of an average rate of about 13 miles per hour. The fastest walking recorded, half a mile in three minutes, illustrates the comparative inefficiency of this method of progression. A first-class long distance runner can continue at that rate for over two and a half hours. Nevertheless it is a matter of common experience that walking is suitable for low speeds, and is indeed, up to a certain limit, more suitable than running. But when higher speeds are required, the muscular mechanism of the body is adapted to run. There is a range of speeds at which, mechanically considered, running and walking are equally possible, a range which is fairly strictly limited since really fast walking demands a considerable course of training and a high degree of athletic efficiency. Within such limits it is possible to compare the energy expenditure required in the two methods of progression. F. G. Benedict and H. Murschhauser (1915),[1] Furusawa and others (1924),[2] basing their conclusions upon the oxygen intake during the effort, have demonstrated the greater energy efficiency of running. Recently Ogasawara,[3] working from the department of industrial physiology of the London School of Hygiene, has repeated these investigations in estimating the oxygen requirement—i.e., the excess of oxygen used in exercise and recovery—per minute when walking and running at the same speed.

Ogasawara's subject walked or ran 500 metres whilst carrying a portable Douglas bag in which the expired air was collected during the exercise and the subsequent period of 40 minutes rest. He found that when the rate of progression was substantially the same, the measured oxygen required for walking was approximately 4 per cent. greater at a speed of five miles per hour, increasing to 20 per cent. at six and two-thirds miles per hour. As Ogasawara points out, these comparisons of oxygen requirement per minute for walking and running are not a true comparison of the oxygen used or required per unit muscular movement—namely, per stride. In the case of running, fewer movements are performed than in walking, although the speed of progression and the total distance covered may be the same. Inasmuch as the length of stride in walking is less than that in running, more strides must be taken to approach the speed, and the difference in oxygen requirement appears to be directly related to the number of strides in each case. The vigorous arm swinging movements inherent in walking must be responsible for some increase in oxygen requirement, and attempts have been made to estimate its extent by independent observations. But as in fast walking the swing of the arms across the chest is an essential feature, the isolated study of this movement is without significance in the comparison of walking and running. In running, speed is an expression of length of stride

[1] Carnegie Inst. of Washington, No. 231.
[2] Furusawa, K., Hill, A. V., Long, C. N. H., and Lupton, H.: Proc. Roy. Soc. B, xcvii., 168, 175.
[3] Ogasawara, M.: Jour. of Physiol., 1934, lxxxi., 255.

and rapidity of striding, and both are amenable to considerable variation. Investigation of an Olympic games sprint champion showed that 45 strides are taken in the course of 100 yards at the rate of 270 strides per minute. In ordinary easy walking, at the rate of 3½ miles per hour, 110 strides each of a length of 38 inches were found to be taken per minute. The same trained walker when increasing his speed to seven, eight, and finally nine miles per hour found the length of stride to increase to 45 inches, which appears to be the maximum possible in a walker, any increase of speed being obtainable only by increasing the rate of striding, the maximum possible for a comparatively short time being 230 per minute, though rates of 200 to 212 to the minute could be maintained for a considerable period.

With the coöperation of G. P. Crowden and Adolphe Abrahams, Ogasawara has extended the range of his observations to a few similar investigations of running and walking 440 yards at the rate of nine miles an hour. This would appear to be the highest speed physically possible in the case of walking, and practically possible in the case of running, when the mechanical difficulty of carrying a Douglas bag is considered, not to mention the handicap of wearing a nose clip. At this speed the walking strides were at the rate of 200 per minute, the running at the rate of 175 per minute. The effort involved in the walk demanded 23½ per cent. more oxygen in exercise and recovery. Subjectively the exhaustion in walking is enormously greater, as might be expected from the effort required to maintain contraction of the muscles of the leg at this speed.

IMMUNISATION OF CATTLE AGAINST TUBERCULOSIS

FROM the Sir William Dunn School of Pathology, Oxford, comes a report by Prof. G. Dreyer, Dr. R. L. Vollum, and Dr. H. H. Ammitzböll on the results of a nine years' field experiment on the immunisation of cattle against tuberculosis.[1] The test was carried out at Söllestedgaard Manor, an estate on the Island of Lolland in Denmark on a herd of red Danish cows which was known to have been infected with tuberculosis since about 1885. By the time the experiment was commenced in 1924 the herd had been greatly reduced by the disease and all the milch cows and 75 per cent. of the bulls, heifers, and calves were infected. From November to May the cattle were kept stabled and in the summer tethered in the fields so that ample opportunity for infection existed. The defatted or "diaplyte" vaccine of dead tubercle bacilli, introduced by Dreyer in 1923, was used throughout. A preliminary course of four intravenous injections was given as soon as practicable after the birth of the calf with subsequent injections in autumn and spring. The first dose was 1·5 c.cm. of an emulsion containing 5 mg. bacillary substance per c.cm., increased to 10 c.cm. or more. Anaphylactic shock occasionally followed the third or fourth injection. Ninety per cent. of the animals in the herd were tuberculous at the beginning of the experiment, and although the immunised animals were allowed to mix freely with the infected stock, only two cases of clinical tuberculosis occurred among the 281 animals which had been immunised from an early age. Out of 55 animals examined post mortem, six had tuberculous lesions, in three instances the lesions being calcified. Taking these figures as a fair sample of the whole herd the records of the experiment indicate that only 10·9 per cent. of the vaccinated animals became infected. The writers consider that the procedure adopted in this experiment could be applied to any herd of cattle without undue inconvenience or interference with the commercial management of the herd.

[1] Jour. Comp. Path. and Therap., March, 1934, p. 1.

THE TALE OF ST. THOMAS'S HOSPITAL

THE period (1600–1800) in the history of St. Thomas's Hospital, covered by the second volume[1] of Prof. Parsons's record of its activities, is less picturesque than that described in the previous volume, but is still full of interest. Throughout this time the hospital continued on its previous site in Southwark, but now procedure had become more standardised. Since it was recognised as one of the great medical institutions in the country competition for election to the staff was already keen; candidates did not scruple to obtain letters of recommendation from King James I. or Charles I., and later from Oliver Cromwell, Fairfax, Speaker Lenthall, and others. In the year 1639 both the matron and the hospitaller were imprisoned for debt. Through the efforts of a committee of the governors the matron was liberated, but although the hospitaller was eventually able to return, the governors did not reinstate him. The trouble in both cases appears to have been due chiefly to the decrease in the purchasing power of money between 1620 and 1636, particularly in regard to food, and as the matron for most of this time was only allowed 2*s.* 4*d.* a week for that purpose it is small wonder that she became insolvent. The duties of the matron appear to have been onerous, and in 1642 they must have been increased by the following order made by the governors. "She is to examine all women patients suspected of being with child, monthly: and if she neglect to do so she is to provide for the child born in the hospitall." During the Civil war the sympathies of the governors appear to have been on the side of the Parliament. In August, 1643, the three surgeons of St. Thomas's asked for a gratuity for dressing many soldiers of the parliamentary army and were awarded £10 apiece. One of the surgeons however, Molins, went off to tend the Royalist wounded: he was captured when Arundel Castle was taken and displaced from the staff by order of parliament, but reinstated at the Restoration. The most distinguished physician to St. Thomas's at this time was Sir Francis Prujean, who was recommended by the great Harvey as the fittest president of the College of Physicians, when Harvey, although elected, excused himself from that honour on account of his age and infirmities. Prujean seems to have left nothing written whereby his medical capacity can be judged. In 1647 Dr. Thomas Wharton, the discoverer of Wharton's duct, was elected physician. He acquired a large practice in London; and it is pleasing to record that during the Great Plague of 1665 he remained at his post, Charles II. having specially asked him to take charge of the plague-stricken soldiers who were brought to St. Thomas's. It would appear that the only reward he got was an augmentation to his arms for which he had to pay a fee of £10 to the Heralds College. One of the surgeons to St. Thomas's who was also lithotomist to St. Bartholomew's successfully operated on Samuel Pepys for stone. The progress made between 1600 and 1700 is thus summarised by Prof. Parsons.

"Typhus, enteric, and scarlatina were now recognised among the fevers, fresh air in sick rooms and wards was

[1] The History of St. Thomas's Hospital. By F. G. Parsons, D.Sc., F.R.C.S., F.S.A. Vol. II. London: Methuen and Co., Ltd. Pp. 281. 10*s.* 6*d.*

understood, steel was prescribed for chlorosis, and Peruvian bark for ague, while limbs were now amputated by the flap operation. Syphilis was treated by salivation, and lithotomy was a special branch of surgery. We must also note that leprosy, sweating sickness, and plague were things of the past."

Between 1693 and 1720 no less a sum than £37,769 was subscribed by the public and early in the eighteenth century much rebuilding was undertaken. During this century the staff included the great names of Mead and Cheselden. Sir Robert Clayton, whose statue by Grinling Gibbons is still in the possession of St. Thomas's, was one of the chief contributors, and Dr. Parsons remarks "that until the present history was undertaken nobody seems to have realised that such an important piece of Gibbons's work was owned by them." In 1707 the name of Thomas Guy, Esq., appears for the first time among the governors. It is interesting to learn that before 1655 all the governors were called Mister, after that the Esquires were carefully distinguished until in 1815 they all became Esquires. Guy was a great benefactor to St. Thomas's and defrayed the cost of a block of three wards costing £1100 and endowed them with £100 a year during his life. In 1721 he founded a hospital for incurables within the close of St. Thomas's. It is said that this scheme was suggested by Mead, with the idea that the new hospital should act as an infirmary to supply St. Thomas's with chronic cases to treat, and thus provide the staff there with interesting patients. Prof. Parsons, takes the view that Guy probably intended that the poor incurables should have a place where they could be cared for when the rules of the hospital required their discharge. As he points out, had Guy intended to found a new general hospital he would never have chosen a place so close to St. Thomas's. Guy wisely left a perfectly free hand to his executors and trustees to modify the hospital that he founded in the way that was afterwards effected. The manner in which the two hospitals later became separated belongs to the history of the next century and no doubt will find a place in the next volume.

VON GIERKE'S DISEASE

FIVE years ago E. von Gierke described a disturbance of carbohydrate metabolism characterised by great accumulation of glycogen in the liver and kidneys. He regarded the condition (which he observed in two children) as due to inability to mobilise glycogen owing to a deficiency of glycogenase. Since then a number of similar cases have been investigated during life, recent reports including those of van Creveld,[1] Unshelm,[2] Rauh and others. The most characteristic features appear to be great enlargement of the liver (which is uniform, smooth, non-tender, and unassociated with splenomegaly), ketonuria, and a low resting blood-sugar. The inability to mobilise glycogen readily is shown by a very slow or inadequate rise of blood-sugar after the injection of adrenaline, whilst the dextrose-tolerance curve is sometimes abnormal. As indicated by von Gierke's original cases, the retention of glycogen may affect organs other than the liver, and van Creveld has pointed out its importance in causing congenital hypertrophy of the heart and pylorus. The same author has studied in two cases the glycogen content of the blood by an original and simplified method, and has constantly obtained high values in the fasting state. He provisionally considers this elevation of blood glycogen to be of some significance in the diagnosis, and further regards the glycogen in the blood as being abnormal in that it was split with difficulty. Although the number of examples of this condition which have been recorded as v. Gierke's disease is still small, there is little doubt that it will prove commoner than is generally supposed. In this country isolated cases have been described by Bellingham Smith and O'Flynn,[3] and Worster-Drought,[4] and R. W. B. Ellis[5] has reported the condition in two sisters in whom it was associated with a marked degree of infantilism. He suggests that the infantilism—which is a not infrequent finding in the older cases—is due to consistent slight carbohydrate starvation of the tissues by reason of the low resting blood-sugar, and that it represents the reverse of the gigantism sometimes seen in the infants of women with early or "pre-diabetes" whose blood-sugar is slightly though consistently raised.

[1] Creveld, S. van: Arch. Dis. Childhood, February, 1934, p. 9.
[2] Unshelm, E.: Deut. med. Woch., April 27th, 1934, p. 633.

VITAMIN-A DEFICIENCY AND THE TEETH

THE rôle of vitamin A as an essential element in the diet for normal functioning of the nervous system was first established by Prof. E. Mellanby. Mrs. May Mellanby then showed that when this vitamin was deficient the epithelial and sub-epithelial gingival tissues in dogs became hyperplastic, and readily infected. Taken in conjunction with Mrs. Mellanby's studies on the effect of vitamin-D deficiency on the teeth of experimental animals, this suggested that just as vitamin D might be the main factor in bringing about an immunity to dental caries, so vitamin A might be equally essential in preserving the integrity of the gingival tissues and so conferring immunity to pyorrhœa. Mrs. Mellanby in conjunction with J. D. King has now published a paper[6] describing a series of experiments on dogs, rats, and rabbits to illustrate the effect of a diet deficient in vitamin A on the nerve-supply of the teeth. The animals were given a basal diet adequate in regard to vitamin D and other constituents and to this was added vitamin A in such forms as cabbage, carotene, and cod-liver oil. Controls in each group received the same basal diet but with the substitution of heated alfalfa or heated olive oil for the vitamin A element. The duration of the experiments varied from 25 days up to six months in the different animals used. Immediately after the animals were killed pieces of the maxillary and mandibular nerves just peripheral to the Gasserian ganglion were taken and prepared by the Marchi and other methods. It was found that in all the animals given a diet rich in vitamin A the gums were normal, both clinically and microscopically, while sections of the nerves showed no signs of degeneration. Among the controls gingivitis was present in all three classes of animals. Microscopically the periodontal tissues showed hyperplasia of the gingival epithelium. Sections of the nerves revealed degeneration in varying degrees, while those of the Gasserian ganglion showed chromatolysis of Nissl's granules in many cells. The illustrations contrasting the appearance of the nerves in the two sets of animals are convincing. It would appear that two distinct lesions may result from a diet deficient in vitamin A; an infective lesion of the soft gingival tissues and a degeneration of the sensory nerves supplying them. That these two changes are connected seems probable since there is a good deal of evidence that the integrity of tissues depends on trophic influences. Attempts are now

[3] Smith, E. B., and O'Flynn, E.: THE LANCET, 1933, i., 297.
[4] Worster-Drought, C.: Brit. Med. Jour., 1933, i., 403.
[5] Ellis, R. W. B.: Proc. Roy. Soc. Med., May, 1934, p. 943.
[6] Brit. Dent. Jour., June 1st, p. 538.

in progress to determine which of the changes comes first, for establishment of the fact that degeneration of the nerves always preceded the changes in the gingival tissues would support the idea of a causal relationship. The authors suggest that the lack of neurotrophic control induced by a deficiency of vitamin A may be partly responsible for the incidence of pyorrhœa and other gingival diseases. It would be unwise at this stage to emphasise too strongly the analogy between effects produced experimentally on animals and the diseases of the gums common among mankind. Clinical observation in many parts of the world has shown that pyorrhœa is prevalent among races showing a high immunity to caries, and this applies also to individuals. It is, of course, possible that a diet might be adequate in vitamin D and poor in vitamin A and vice versa, but their distribution in nature makes this unlikely. The apparent absence of any local factor in many cases of pyorrhœa, especially in young persons, suggests strongly that some general factor is primarily responsible for the incidence of the disease and thus lends some support to the view that nutrition may play a part in the ætiology of pyorrhœa. It would be interesting to test the hypothesis by experiments on man comparable to those undertaken by Mrs. Mellanby in Birmingham and Sheffield on vitamin-D deficiency and by Boyd and Drain in America. Such tests would be more difficult to plan in so far as the main incidence of dental caries is in early life and can be investigated in children living under institutional conditions; whereas the incidence of pyorrhœa is greatest in adult life where suitable conditions for large scale feeding experiments, in this country at least, are not easy to come by.

"LIVING DANGEROUSLY"

To put medicine on the boards of the theatre is attended with fundamental difficulties similar to those which await the writer who uses medicine in the development of a novel. In each case medicine offers two invitations, one on the clinical side and the other on the administrative or professional side, and in both the opportunities for the layman to go wrong are numerous, for neither the Medical Acts nor therapeutic treatises are simple of comprehension or open to popular condensation. The author, dramatist, or novelist, when medicine is the theme, should not therefore be blamed for inaccurate presentation of details, which may fairly on occasion be subordinated to the necessities of the story. But that way danger lies; it is not easy for the layman to decide whether what is apparently a detail may not be a fundamental principle. However, in the medical play, "Living Dangerously," which is meeting with interested attention at the Strand Theatre, Mr. Reginald Simpson and Mr. Frank Gregory have been able to avoid all serious misrepresentation and also to furnish arguments for a medical reform which the public at any rate considers necessary. True, no medical firm of the constitution described could be found in Wimpole-street, and no procedure of the exact sort depicted could take place in Hallam-street; but the exigencies of the narrative have entailed the inaccuracies, while the balance of criticism is preserved, for, if the medical villain is a disgusting fellow, as played by Mr. Martin Walker, the brow-beating barrister, presented by Mr. Eric Stanley, would be a greater danger to wholesome society. The first two acts are taken up with the description of an unprofessional traffic in drugs, and a trial before the General Medical Council, which has its real origin in that traffic, but the issues involved are those of an accusation of adultery with a patient. In the third act we move from medical Marylebone to the wealthiest street in New York City, and the action becomes frankly melodramatic. The doctor who has been wrongfully removed from the British Register is described as having had no difficulty in taking the necessary degrees and in rising promptly to a high professional position in America. That we submit to be very unlikely, but the improbability should irritate no one because of the brisk happenings which follow, and which are concluded with a particularly neat application of rough justice. The essential message of an interesting play is that there should be some recognised form of appeal from the decisions of the General Medical Council, and Mr. Godfrey Tearle, in the character of the unjustly expelled doctor, gives by his admirable acting a force to the plea. But in real life the false testimony, neatly supplied by Miss Helen Goss, in the rôle of the perfect female dog, would not have had the force attributed to it; and Miss Carol Goodman, the pathetic victim of malignity, when giving her evidence would have been protected from gross insult.

A PIONEER OF AMBULANCE

Dr. Arthur William James, who lost his life on June 18th in a motoring accident, had done more than anyone living to mitigate the terror of accident on the road. It is just thirty years ago since Dr. James enrolled some 1100 medical men in London, about one in five of the total number, to form the Metropolitan Street Ambulance Association. Already at that time there were 15,000 severe casualties each year in London streets and there was no organisation or equipment for the rapid transport of injured persons to home or hospital. In that year pressure was brought upon the London County Council by the Presidents of the Royal Colleges and others to induce the Council to graft upon its fire brigade an efficient ambulance service. It was, it seems, Sir William Church who first saw the practical advantage of combining these two services; Dr. James, who was not only founder but hon. secretary of the Ambulance Association, was able effectively to point out the ease with which the fire brigade service could deal with casualties, if provided with the men, horses, and ambulances, without interfering with their primary duties. The desired change followed quickly upon the combined stimulus, and shortly after that date London took steps to redeem the reproach of being behind Liverpool and many continental towns in the provision of help for those unable to help themselves in case of sudden illness or accident. In this achievement the name of Arthur James will be gratefully remembered.

A RECEPTION will be held at the Royal College of Surgeons of England, Lincoln's Inn-fields, on Wednesday, July 11th. A series of interesting demonstrations will be provided by prominent institutions and medical schools directed to the illustration of recent advances in medical science, special attention being given to experimental researches bearing on the nature and treatment of cancer.

ON Wednesday, June 27th, at 5 P.M., at the house of the Royal Society of Medicine, 1, Wimpole-street, London, W., Dr. William Allen Pusey, of Chicago, will deliver the Prosser White oration to the St. John's Hospital Dermatological Society. The subject of the lecture will be Disease, Gadfly of the Mind, especially the Stimulus of Disease in the Development of the Mind. The meeting is open to all medical practitioners.

PROGNOSIS

A Series of Signed Articles contributed by invitation

VII.—PROGNOSIS OF STAPHYLOCOCCAL INFECTIONS OF THE SKIN

THE structure of the skin renders it highly resistant to both physical agents and bacteria, but like most suits of armour it has its weakness; in this instance it is the depression known as the hair follicle. As the staphylococcus finds this site most suitable for multiplication it is not surprising that this organism is responsible for a considerable proportion of the infections of the skin. It may be assumed that most people are frequently contaminated by the organism. Yet mere contact is not necessarily followed by a pathological lesion—the staphylococcus may enter a follicle and remain alive for days, but unless there is added trauma to the skin and the resistance is consequently lowered, the cocci are unable to multiply and do harm. The experiments of Norton and Novg [1] appear to show that the skin has no direct germicidal power. These workers applied *B. prodigiosus* to the skin and found that the organisms diminished rapidly in numbers, particularly during the first ten minutes. Similar results were obtained when cultures of this organism were placed on inert material such as paper or leather. The same authors made the interesting observation that the rate of disappearance in each instance appeared to be governed almost directly by the amount of moisture present, and clinical experience with staphylococcal infections appears to support these findings, for drying the skin is undoubtedly one of the most efficient methods of preventing the spread of the lesions.

It is noteworthy that some persons carry foci of staphylococcal infections on the skin without intermission for 20 or more years, and yet contacts living in intimate relationship with them may remain absolutely free.

A fact not generally appreciated is the relative immunity of the female. An analysis of 163 cases of recurrent boils attending the skin department of the Royal Infirmary, Sheffield, showed that of this number only 18 per cent. were female. Even in deeper infections such as osteomyelitis, the incidence is approximately three males to one female. It is questionable whether the difference in environment and exposure to injury of the sexes can be entirely responsible for this variance. It appears as if the female skin offers a less suitable habitat for the growth of the bacteria.

It has already been stated that the staphylococci find the follicle the locus minoris resistentiæ. If the resistance of the individual is high, the activity of the organism may be restricted to the mouth of the follicle producing the condition known as

SUPERFICIAL PUSTULAR FOLLICULITIS

an example of which condition is found in the minute pustules found on the skin around infected wounds and boils. Similar pustules are also met with frequently on the anterior surface of the thighs in workers engaged in industries involving the use of oil or tar. Another situation is on the scalp of children, usually as a sequence to an infection of pediculosis capitis or impetigo.

On the glabrous skin the pustules run a benign course, and even without treatment there is a tendency for them to dry up and for the tiny crust to be shed. Occasionally a few of the pustules may coalesce, forming small superficial ulcers; in this event the frequent application of wet dressings of ½ per cent. silver nitrate solution will usually promote rapid healing. When the affection involves the thicker hair of the scalp or pubis the prognosis is by no means so favourable, for successive reinfection of the follicles is apt to occur, accompanied by swelling of the neighbouring lymphatic glands. The complaint may continue for weeks or even months, unless suitable treatment is carried out with careful attention to details. The hair should be clipped short, crusts removed, pustules opened, and the area painted with applications such as 1 per cent. solution of brilliant green, or 2 per cent. sol. silver nitrate. Should X ray therapy be available it will be found to expedite healing.

THE BOIL OR FURUNCLE

If the conditions are favourable the staphylococci, in addition to multiplying at the orifice, gain access to the depth of the follicle along the hair shaft and produce the boil, the lesion so frequently met with in youth. The prognosis of the single boil is excellent, the average course being about two weeks, but during that brief period the sufferer usually unwittingly promotes the growth of staphylococci in the neighbouring follicles by the warmth and moisture of applied poultices and fomentations. Other boils follow, and soon follicles near and far are contaminated with the same organisms which only wait favourable conditions for their growth. If looked for, contributory causes will be found in the skin in a large proportion of the cases—for example, scabies, seborrhœa, and lastly, but important, pruritus ani. The trauma from any one of these complaints may suffice to lower the resistance of the skin and may prolong the malady of recurrent boils indefinitely unless removed, or until the patient by a process of continued self-inoculation establishes sufficient resistance to protect himself against the staphylococcus.

In addition, the possibility of general predisposing causes must be considered; for instance, debility following serious systemic disorder will naturally influence the course of the malady. The relationship between recurrent boils and diabetes has received considerable attention. In actual practice the percentage of cases of recurrent boils associated with glycosuria is very small. Fortunately sufferers from furunculosis are usually unaware of the serious complications which may assail them during the course of their complaint, but the association between the infections of the skin and the conveyance by the blood stream to the deeper areas is now generally recognised, and surgeons repeatedly obtain a history of boils preceding such diseases as perirenal abscess, prostatic abscess, and osteomyelitis. The most dramatic and serious complication, however, is the extension of the infection from the boil on the face and neck to the cerebral veins, a disaster nearly always terminating fatally. Therefore the presence of a boil on the face, particularly in the neighbourhood of the upper lip, is a contingency which necessitates a guarded prognosis, but it should not be unduly pessimistic. Happily, even on the face, most boils run a simple course, in fact heal rapidly; nevertheless it is a wise precaution to detain the patient in bed until the core has been discharged.

The tendency for a boil to be followed by a succession of others at short intervals is so constant that the prognosis of the malady largely turns on

[1] Norton and Novg: Amer. Jour. Pub. Health, 1931, xxi., 117.

the efficiency of the prophylactic measures. The patient naturally seeks relief from the pain and admittedly there is nothing so efficacious for the purpose as moist heat in the form of a poultice or fomentation. Nevertheless, it cannot be too strongly emphasised that it is also a common cause of the recurrence—the purulent discharge soaks into the dressings and cocci are spread to the neighbouring follicles where they are encouraged to multiply under the optimum conditions of heat and moisture. Pads soaked in methylated spirit or a mixture of sulphate of magnesia and glycerin will be found a useful substitute for fomentations.

Attempts have been made to abort boils in their early stages before th infection travels down the follicles, but in my experience these seldom succeed. Although a number of persons appear to have a low resistance against the *Staphylococcus aureus*, it can be stated definitely that in the majority of instances the prognosis is largely governed by the treatment adopted. Contributory causes, either general or local, should be sought for and, when possible, removed, and every effort should be made to prevent spread from the initial lesion. Innumerable therapeutic remedies have been extolled and mostly, I fear, abandoned. It is impossible to discuss even the most popular, but many years of critical trial justifies me in advocating intramuscular injection of colloidal manganese as a means towards cutting short this painful malady.

Strictly speaking, the pathology of the axillary abscess differs from that of the boil—the primary infection being through the sweat ducts; but the ætiology and course is similar, except that the axillary abscess is quite often absorbed without discharging externally.

THE CARBUNCLE

Although a follicular infection with the *Staphylococcus aureus* is the initial lesion of both the boil and carbuncle, in the latter either the terrain is more favourable or the virulence of the organism is greater. The toxin from the rapidly multiplying cocci produces a necrosis which extends and involves the neighbouring follicles. A carbuncle must be considered a more serious lesion than a boil; the duration ranging from four to six weeks. It is accompanied by more pain, often rigors and malaise. In the young or middle-aged the outlook is favourable, excepting the fact that as in boils, other follicular infections may follow; but in debilitated old people the tissue necrosis may assume vast proportions and the absorption may cause delirium, exhaustion, and sometimes death. In favourable sites, when the necrosis is not too extensive, total excision may be practised with advantage, in order to reduce the length of the healing time, and also as a measure to avoid the contamination of the follicles.

SYCOSIS

The term is usually applied to a follicular eruption of the beard and moustache, but similar lesions of the follicles may be found in other areas where hair is present. The chronicity is due to a succession of small abscesses which discharge into the follicle. The epidermis appears to be unable to establish an immunity against the staphylococcus; thus healing of the small abscess cavity is incomplete and a focus remains. Blepharitis, a similar infection of the lid margin, often precedes the infection of the beard, for the cocci from the eyelids are carried by the tears to the nose, and thence to the upper lip. The chronicity of the complaint is remarkable; when once established there is no inclination for recovery, and the disease may persist for an indefinite number of years. It may be confined to the beard for a long period, and then the hairy regions, such as the eyebrows, scalp, axillæ, and pubis, may be invaded. In spite of the fact that the rest of the skin must be heavily infected with the same cocci, it is noteworthy that boils and other deep lesions are absent. Although there is no tendency to spontaneous recovery a satisfactory termination may usually be anticipated providing the infection is in a relatively early stage and the patient gives his whole-hearted coöperation in the treatment. As the complaint is most commonly met with in the industrial population, it is likely that adequate and carefully selected diet, combined with good hygienic conditions, would be of help. As a local application there is no remedy more efficacious than the following paint: brilliant green, 1 per cent.; methylated spirit and distilled water, equal parts; particularly when combined with suitable X ray therapy.

RUPERT HALLAM, M.D.,
Lecturer on Diseases of the Skin, the University of Sheffield.

THE SERVICES

ROYAL NAVAL MEDICAL SERVICE

Surg. Lt. J. C. Gent to be Surg. Lt.-Comdr.

The following appointments are notified:—

Surg. Lt.-Comdr. G. D. J. Ball to *Pembroke*, for Chatham Barracks.

Surg. Lts. W. B. Taylor to *Grimsby*, and H. A. Clarke and H. E. B. Curjel to *President*, for Medical Dept., Admiralty.

ROYAL NAVAL VOLUNTEER RESERVE

Surg. Lts. to be Surg. Lt.-Comdrs.: A. L. Gunn and R. H. Enoch.

ROYAL ARMY MEDICAL CORPS

Lt. G. L. McLeod to be Capt.

TERRITORIAL ARMY

Capt. T. L. Clark to be Maj.

Lt. J. D. A. Gray, from Gen. List, T.A., to be Lt.

Lts. N. Moulson and H. G. Wimbush to be Capts.

W. P. Purvis (late Offr. Cadet, Blundell's Sch. Contgt., Jun. Div., O.T.C.), T. N. Rudd, and T. McK. Robb (late Offr. Cadet, Taunton Sch. Contgt., Jun. Div., O.T.C.) to be Lts.

Supernumerary for service with O.T.C.: Capt. J. Whillis (Empld. Durham Univ. Contgt., Sen. Div., O.T.C.) to be Maj.

TERRITORIAL ARMY RESERVE OF OFFICERS

W. N. Lycett to be Lt.

SHORT SERVICE COMMISSIONS IN THE R.A.M.C.

The following candidates who presented themselves for short service commissions, have been granted commissions as lieutenants on probation in the Royal Army Medical Corps: W. M. E. Anderson, M.B., B.Ch., and H. B. Wright, M.B., B.Ch., Trin. Col., Dublin; J. Boyle, L.R.C.P., St. Mary's Hospital; R. H. Foster, B.Ch. Camb., Univ. Col. Hospital; J. S. Ruddell, M.B., B.Ch., Trin. Col., Dublin; A. G. D. Whyte, M.B., B.Ch., Aberd. Univ.; A. L. Pennefather, M.B., B.Ch. and C. G. O'Driscoll, M.B., B.Ch., Trin. Col., Dublin; D. T. Swift, M.B., Ch.B., Otago Univ.; F. E. Buckland, M.R.C.S., Oxford Univ.; A. MacLennan, M.B., Ch.B., Aberd. Univ.; J. H. J. Crosse, M.R.C.S., St. Bartholomew's Hospital; J. Morgan, M.B., Ch.B., Liverp. Univ.; R. A. Stephen, M.D., Aberd. Univ.; E. H. P. Lassen, M.R.C.S., King's College Hospital; R. S. Vine, M.R.C.S., Guy's Hospital; I. Buchanan, M.B., Ch.B., Edin. Univ.; J. E. Jameson, M.R.C.S., St. Thomas's Hospital; M. W. Allen, M.R.C.S., Middlesex Hospital; W. T. Bermingham, M.B., B.Ch., Trin. Col., Dublin; K. H. Clark, M.B., B.Ch., St. Mary's Hospital; M. J. Horgan, M.B., B.Ch., Trin. Col., Dublin. Seven of these officers have been seconded for the purpose of completing appointments in civil hospitals.

SPECIAL ARTICLES

VOLUNTARY HOSPITALS CONFERENCE

(*Concluded from p. 1311*)

Out-patient Departments

Sir ROBERT BOLAM, opening the discussion following Lord Onslow's paper on out-patient departments, which we summarised last week, said that delay and waiting were not confined to the work of doctors and dentists. He thought a short and popular account of the work of Lord Onslow's committee would be of great educational value. The out-patient departments, generally speaking, were so overcrowded that specialists working therein were not used to the best advantage, patients had to wait, and coördination between general practitioner and specialist services was not properly developed. The only remedy was educational propaganda. Much might be borrowed from the experience of the world of commerce. Some time and much exasperation might be saved by consideration of architectural features and the use of directional signs. Was it too much to hope that anxious patients might meet a courteous usher, with sufficient messengers to serve as guides? The day was over for the slogans "Ever-open door," "No one turned away"; they caused the mistaken impression that the hospital was available for all kinds of service. The time had come to teach the people what services were available in hospitals and how they differed from the services obtained from the general practitioner. It was uneconomical to use the consultant as a sifting agent; that was the work of the general practitioner. There ought not to be any patients who found difficulty in getting a doctor's letter; the percentage of doctors who resented referring a patient to a hospital was negligible. The public must educate the doctors to give letters to hospitals without difficulty. Patience and forbearance on all sides were necessary. The problem could not be dealt with solely by conferences and reports; the essential conservatism of the people must be remembered. The hospital-going habits of the nation would not be changed in five minutes.

Mr. ST. JOHN WOOD (Northampton) and Dr. E. BARNES (Manchester) described successful appointments systems in their hospitals, which had overcome all the difficulties mentioned. Secretarial assistance was provided but dictaphones had not proved satisfactory.

Mr. A. H. LEANEY (Birmingham) emphasised that the out-patient was more important than the in-patient department because it dealt with the early stages of disease. It must not be rushed. Mr. F. CHORLEY (Devon) lamented the belief of many patients that the earlier they arrived the faster they would be cured.

Sir HENRY BRACKENBURY observed that some hospitals had already converted their out-patient departments to purely consultative work. One of the great evils of the past was the divorce between hospital and private practitioner work. The young resident medical officer somehow got it into his head that the doctor practising outside was not worth considering. It was of the utmost importance that the man doing the domiciliary work should be regarded as an integral and important part of the patient's treatment, both before and after hospitalisation. The discharged patient should be referred to a doctor—and not primarily to the district nurse.

At the discussion on the

Function of the Cottage Hospital

Lord HORDER, from the chair, mentioned the difficulty of defining this important unit of the voluntary system. The cottage hospital gave undoubted benefits to the patient, the doctor, and the community. It was an excellent institution for first-aid—medical as well as surgical. The proximity of friends was a very desirable and important factor in the care of the sick, and the quiet and fresh air of the cottage hospital were of great therapeutic value. Nevertheless the subject urgently needed discussion. Some well-equipped cottage hospitals were empty; others were overcrowded.

Mr. W. M. GOODENOUGH (hon. treasurer, Radcliffe Infirmary, Oxford) in the opening paper expressed appreciation of the work done by cottage hospitals, and recognised the great variation in local conditions. He regarded these hospitals as units in a hospital area, by which he meant one served by a general hospital having a number of cottage hospitals connected with it. Coördination was of increasing importance. He defined a cottage hospital as one in which specialists were not regularly and easily available, there were no resident medical officers or highly specialised equipment, and the staff consisted of local general practitioners. Cottage hospitals were beginning to deal with a certain amount of major work; this was an undesirable development, because every case might produce complications demanding the immediate attendance of a specialist, a resident doctor, or specialised equipment; and transport at this stage could not be good for the patient. Many cottage hospitals now had more beds than they could use and often exercised too little economy. The over-development of cottage hospitals had diverted funds from the key hospitals. The cottage hospital should be limited to the kind of case that could be adequately dealt with by a skilled nurse with the occasional assistance of the local practitioner, and the average cost should not exceed two guineas per week per patient. Another important function of the cottage hospital was to provide convalescent accommodation in the country, provided there was a separate ward for acutely ill patients. As residential centres for district nurses, cottage hospitals might in future prove very valuable. District nurses at present worked as isolated groups under very difficult and varying conditions. In a hospital they could be housed comfortably and economically; motor transport could be provided for them; their more serious cases could be removed to the hospital, and their standard of work would be more uniform than it was at present. The idea should, however, be approached with a good deal of caution. One of the most valuable features of the district nurse was her close and intimate contact with the village people, with whom she lived as one of themselves. Many valuable nurses would object to residence in a nurses' home.

The cottage hospital was essential to the general practitioner, and its connexion with his work was intimate and obvious. The qualities upon which the cottage hospital system had been built were those of local loyalties and enthusiasm, and these qualities must be fostered in every possible way. Coördination might be achieved by the establishment of advisory committees representative of all the hospitals in a district; these organisations would not over-ride local views or local independence but would make recommendations for the allocation of funds and space.

The cottage hospital was obviously not suitable for the training of nurses, and to staff the cottage hospital with trained nurses only would cost more than most of them were now spending on their nursing staff. A suggestion worthy of consideration was that they might combine with central hospitals for interchange of staff—the trained nurses gaining experience of housekeeping and other work in a cottage hospital, and girls too young for general hospital training being kept for a period at the cottage hospital.

Dr. C. E. S. FLEMMING suggested the name "district hospitals" for these institutions. They were essential for the completion of the hospital service of the country, and to enable the general practitioner to give of his best, which was now of a very high order. It might be dangerous to interfere with the development of such a growing department by rigid rules. They were essentially general practitioner hospitals, and ought to remain so. Coöperation with larger hospitals should include both work and maintenance; each district must provide its own funds, but charges should be standardised.

Mr. G. H. J. DUTTON (Skegness) pointed out the usefulness of regional committees in motor accident cases. Mr. P. J. NEATE (Cancer Hospital, Fulham) urged closer collaboration between great general and specialist hospitals and the cottage hospital for the purpose of ensuring early and accurate diagnosis. Mr. A. FOUCHARD (Mexborough) disagreed with the reader of the paper. His cottage hospital had much up-to-date equipment, two resident medical officers, and a nurses' hostel, supplied largely by miners' welfare funds. He did not think convalescents or district nurses should be accommodated in the cottage hospital. Mr. Goodenough's suggestions would not be welcome in South Yorkshire. He urged that local executives should be left to deal with local needs as they saw them. Mr. CHORLEY quoted figures to show that there were many vacant beds for convalescents, but unfortunately cottage hospitals did not care to take back cases that had been sent on to key hospitals. Mr. GOODENOUGH replied to a question: do most cottage hospitals treat members of their contributory schemes as subscribers and give them a voice in management? He said that he thought they usually did, by means of elected representatives. Mr. J. A. RITCHIE (Hornsey) recommended allowing every doctor in the district to use the hospital, and providing for visiting specialists the same efficiency and equipment that they found in their own hospitals.

Lord ARMSTRONG (Newcastle) said that in Northumberland some patients preferred district nurses, who lived in their own houses, and others preferred village nurses, who lived in a community. The problem of motor accidents greatly concerned cottage hospitals.

A paper on

The Hospital and its Architect

was read by Mr. E. STANLEY HALL, F.R.I.B.A. He said that two points were of vital concern in the economy of hospital planning: the architect should be called in at the earliest possible moment and he should have a very small and very sympathetic building committee. The architect was seldom called in until the site had been selected, yet many points of contour, subsoil drainage, sewage disposal, approaches, water and other supplies, aspect and prospect would affect both planning and cost. The best way of coördinating the various interests was to have a technical committee of physicians and surgeons to report to a very small lay committee directly responsible to the board. The technical committee would decide what they wanted, after frequent consultation with the architect, and the lay committee would decide what could be afforded. It was difficult to make lay members understand how vitally important was the work of planning in the early stages. The growth of hospitals had been largely haphazard. The programme to be settled included the total number of beds and their allocation, the nursing unit, the operating theatre unit, the casualty and out-patient department, the staff home, administration block, boiler house, laundries, and pathological department.

Subject to statistical requirements, the hospital should be as large as possible, because expensive plant such as X ray, electrical, and sterilising apparatus need not cost twice as much for twice the number of beds. There should always be allowance for future expansion. It was more economical to have one large hospital than two small ones. The architect must know the number of patients per nursing unit before he could plan the wards. The present tendency was to decrease the size of the wards, but this increased the cost of nursing, and hospital authorities had to hold the balance. The necessary ancillary rooms for each unit must also be decided on at an early stage. Some hospitals preferred to have separate theatres on different floors; this was less economical than grouping the theatres into one unit. Twin theatres could often share a sterilising plant, thus effecting an important economy. Considerable ingenuity was required in arranging for students in the theatres of teaching hospitals. A valuable but expensive device was the French Scialiscope, which threw a reflection of the operation upon a screen in an adjoining room. Any previous experience the architect might have of casualty and out-patient departments would only be enough to warn him of the necessity for obtaining the most detailed information of the way in which the one in question was to be worked. There was infinite divergence in practice. An architect could not fail to be struck by the uneconomical occupation of out-patient consulting-rooms and theatres. He would plan a most elaborate suite for eye cases and be told that it would be in use once or perhaps twice a week. The needs of various specialists must be weighed very carefully in planning the out-patient department.

The architect would know that every nurse and maid should have a separate bedroom, generally with fixed basins and fitted wardrobes—requirements which increased the capital costs but saved running expense. Staff dining rooms and kitchens had an important bearing on the whole design. The kind of fuel to be used and the kind of heating apparatus required must be decided early. The advent of the Grid had brought electric energy within the reach of most sites, but gas had many attractions if the price was right and quality and pressure guaranteed. Laundries should be moved away from the hospital if possible, and a common laundry for all the hospitals of one area would be an economy and an advantage.

The first problem for the architect when he had collected the rough parts of this jig-saw puzzle was to consider whether the hospital was to extend horizontally or vertically. Separate units of two or more storeys minimised the risk of fire, and were more elastic in plan and less institutional in appearance. High buildings demanded lifts, which were expensive to run and maintain; the upper floors were healthiest and should be used for theatres and as many patients as possible, and not for kitchens and dining rooms. Flat roofs should always be available for staff if not

for patients. Balconies were preferable for the patients. Finally the architect had to consider the circulation of nurses and staff and the contacts between different departments and between the departments and the outside world. Not until all these considerations had sunk in should he begin to plan his building. Hospital planning was a matter of coöperation and sympathy between all parties, and the more they got together in the earlier stages the greater the chances of getting a hospital that was medically perfect, economical to run, and architecturally satisfying.

Mr. E. ROCK CARLING described a recent visit to a new nurses' home of admirable architectural proportions in which nurses on the top floor could not see out of their windows! No profession suffered more from vexatious amateur interference than the doctor's; he understood therefore that architects might well object to it. Nevertheless many reforms in medicine were due to pressure from outside. The architect's method of remuneration was a grievance in that it did not encourage the architect to minimise the final contract price. New methods involved arduous calculations and much anxiety, and finally left the architect with a smaller fee. The less competent the architect the more the employer had to pay. An attempt to change this old custom would carry most of the architects with it. The building of an entirely new hospital should involve reconsideration of all the customs and work of the institution. One member of the staff should follow the patient from his first appearance to his discharge, and members of the staff must attend every day. The potentialities of the almoner's department must be appreciated, and a really competent almoner put at its head. In such a department business methods and records were found, and it should lie between incoming and outgoing patients. There must be complete circulation of the patient, with minor subcirculations. Apparently undue corridor space was demanded, but was well worth while. No offer by a generous donor should allow any one department to exceed its proper proportions, which should be settled on fundamental principles, for this upset the whole working of the hospital's maintenance. No special department should be provided in a general hospital if there were a neighbouring specialist hospital offering that service. To do effectual work in specialist departments there must be special apparatus which could not be used by other departments; they must be empty part of the time, but power, heat, and light might be cut off from them during the unused periods. Architects, he supposed, looked on medical men as rather like the traditional Irishman who never knew what he wanted and was never happy till he got it, but it was not wholly the fault of the medical man; as soon as he got a plan on to paper his neighbours at once started suggesting alterations.

Dr. RENÉ SAND, technical counsellor of the League of Red Cross Societies, and former president of the International Hospital Association, spoke on

Hospital Administration on the Continent

On the continent, he said, the voluntary hospital was not in the foreground. The matron, when she existed, had not the same authority, and the historical background was different. France and Belgium were typical of countries in which the hospitals belonged mainly to the local public assistance authorities. The result was that on one side the board of hospitals was constantly warned by the municipal authorities that they must economise, while on the other side public opinion cried out for better institutions and equipment. Half-measures were the rule. Some Paris hospitals were at times so crowded that an 18-bed ward housed 30 patients. Hospital technique was hardly recognised as such, and the members of hospital boards were well-meaning citizens who judged things by "horse sense." No general plan had been put into force and there were still many antiquated, dilapidated small institutions. Even in the bigger hospitals few nurses had received a regular training, the science of dietetics was unknown, and accounting was a list of receipts and expenditure. Nevertheless, great improvements had taken place, and hospital technique was forging its way. Italy and Spain were both making great strides with their hospital work.

Germany and the Scandinavian countries represented a second European group in which hospital administration was partly separated from the public authorities. Austria had in 1920 passed a law establishing a hospital plan for the whole country. In Scandinavia the planning, maintenance, and administration of hospitals had for centuries been the function of the State, and the running and equipment was on lines parallel with those in this country. In Turkey the law provided that every province should have its hospital, and a school for the training of Moslem priests had been found to fit admirably the purpose of a child welfare centre. In every direction there was progress and grounds for optimism.

A paper on

Coöperation between Voluntary and Municipal Authorities

was read by Sir GEORGE NEWMAN. He submitted a table showing the actual position of the four classes of hospital—monastic, educational, charitable, and municipal—at the present time, and pointed out that the convenient division into municipal and voluntary institutions was less definite than formerly because voluntary hospitals were more and more engaged in municipal service, while municipal hospitals were adopting voluntary principles. There was no reasonable cause of war between them; there was cause only of marshalling them together in a joint war against disease. The problem was constituted by the fact that the municipal hospitals were maintained on a basis of rates and taxes, and as they expanded there might seem to be less need for the hospital supported by voluntary contributions. Nevertheless, it was far better to combine the two into one coöperative system than to allow the voluntary hospital to disappear. Great as were the services of the voluntary hospital system to the country, it had not met and could not meet the ever-widening and importunate medical needs of the population. The voluntary hospital stood for individual enterprise and self-denial; the municipal hospital for the formulated will of a free people. Clearly, one single health authority must serve the whole hospital needs of its area and the Local Government Act of 1929 sought to ensure coöperation between all the institutions in a district. More had been done by the authorities in support of voluntary hospitals than some people seemed to assume. No less than 300 local education authorities had paid very substantial sums to over 600 voluntary hospitals, for example, and the London County Council paid a yearly grant of some £25,000. Moreover, there had been much interchange of function, yet coöperation could not take place until the voluntary hospitals had established a representative committee prepared to act. This must be done by the hospitals themselves. It was

obvious that the greater the goodwill and desire for coöperation the more fruitful would be mutual consultation. Nothing was so conducive to the dissipation of apprehension as a frank discussion of the situation. The survey reports of the medical officers of the Ministry of Health showed that the desire for common-sense coöperation was widespread, but there had been some indication of a fear on the part of voluntary hospitals. As a matter of fact, different authorities could not afford to engage in wasteful competition.

Lord COZENS-HARDY (chairman, Merseyside Hospitals Council) feared that the voluntary hospitals were being slow to realise the immense changes which must follow the Act of 1929. Already the local authorities had the majority of the total number of beds in the country. Nothing effective would be done if coöperation was confined to Section 13. There must be some joint committee, meeting regularly. Suspicion and prejudice were impossible foundations for coöperation, and such a committee might quite unconsciously do great educational work. It would also prevent any political action tending to antagonise the two systems.

Mr. L. G. BROCK (president, Board of Control) gave practical illustrations of coöperation in the field of mental hygiene: out-patient clinics at general hospitals, and the treatment of mental patients by specialists of all branches. Committees had been advised to put physicians and surgeons on the staff of the mental hospital while the psychiatrist was put on the staff of the general hospital.

Dr. FLEMMING said that some people had looked on municipal hospitals as a disease to be avoided and not as what they in fact were—allies in the fight against disease. A volunteer was no good unless he was a member of an organised army. The municipal hospitals were the complement of the voluntary hospitals and not in competition with them. His only fear of the municipal hospital was that the men working it might be overcome by the dead weight of officialism.

Mr. S. HUTTON (Glos.) mentioned certain difficulties of rural areas: poverty, staffing, and communication. He described the methods of coördination already established in his district. He recommended that the chairman of the voluntary hospital should be elected to the local authority. Mr. J. HENDERSON (Sheffield) and Mr. FOUCHARD related the coördinating work in their towns.

Hospitals Conference Banquet

The DUKE OF YORK presided at the banquet held in the Guildhall on June 14th. Replying to the loyal toasts he said that the great voluntary hospital systems of the country represented 1051 hospitals and 83,051 beds, and was a national asset of which everyone was very proud. Year by year, despite anxieties, it was expanding and declaring anew the determination of the people to extend help to the sick and suffering; some 2000 beds were added annually, as well as new appliances and equipment. The way in which the public contributed to the hospitals was wonderful.

His Royal Highness also proposed the toast the Voluntary Hospitals of Great Britain and Ireland, to which Lord STANMORE replied, confessing that even in the blackest financial periods the hospitals found their needs met. It was almost unknown for an institution to close down for lack of funds. The voluntary hospitals possessed the confidence of the people. The system was elastic, and as each new need arose some method of meeting it was found. He was confident that research work flourished more in a voluntary than in a compulsory atmosphere. Major R. JACKSON, also in reply to this toast, spoke in appreciation of the great interest taken in hospitals by members of the Royal Family, and of the valuable work done by officers of the conference.

Lord MACMILLAN proposed the Lord Mayor and Corporation of the City of London, saying that it was the ambition of every cause in the country to have a banquet at Guildhall. The essence of a voluntary movement was that it was independent and retained that sense of freedom and liberty that was our greatest heritage. Often in history the Lord Mayor and citizens of London had turned the scale in favour of liberty. No worthy object ever came to Guildhall and asked for sympathy and support in vain. The Lord Mayor replied, sketching the work of the Port of London sanitary authority in the Thames.

The health of the guests was proposed by Sir HAROLD PINK, who declared that nothing bound nations together better than hospital work; in its pursuit all animosities were forgotten.

Lord HORDER replied, saying that the guests had two common interests: gratitude for the hospitality accorded them and concern for the problems of hospital administration. Many of the guests had worked for years in the service of the voluntary system. The British ideal of the voluntary system was being watched very closely, and some were not too happy about it. The question of coöperation with municipal hospitals was vital and precarious. There seemed to be no sense of permanence in some of the methods of grouping voluntary hospitals. The voluntary system must go on, but it might be modified and adapted to changes in municipal and public life.

THE COMMITTEE AGAINST MALNUTRITION

THE first public meeting of this committee was held on June 13th at 34, Red Lion-square. Sir Gowland Hopkins, P.R.S., was in the chair. The gathering was so large that an overflow meeting had to be arranged, which was addressed in its turn by the speakers.

Sir GOWLAND HOPKINS said that he would have been glad to be present in any capacity, so great was his sympathy with the meeting. The outstanding social duty of the moment was to see that all classes of the people were properly nourished. It was even more important than to see them properly housed. To be poorly housed and well fed was preferable to being poorly fed and well housed. Any sound housing policy must go hand in hand with a sound feeding policy. There was no doubt that an increase in rent, which was often demanded by better housing, meant a decrease in food, and this, in present circumstances, was calamitous. The abundance in the world was common knowledge. Science and enterprise had reproduced the miracle of the loaves and fishes. But they were not being fed to the multitudes. It was important to remember that the multitudes needed fishes as well as loaves. Man could not literally live by bread alone, nor even by bread plus cheap sugar and margarine. Quality was important as well as quantity. The aims of the committee were non-political. They were to give the widest publicity to facts, which could then be used by whoever wished to initiate political demands and campaigns. The necessity for quick action should be kept to the front if the physical descent of the nation was to be arrested.

The inhibitions to proper progress were apathy and disbelief in a few, ignorance in many. A nation which knew that malnutrition existed was a sinful nation.

WOMEN AND CHILDREN

Dr. STELLA CHURCHILL spoke of malnutrition as it affected women and children. The condition of the pre-school child, she said, was most serious. In any case it was useless to give free education if we did not first give free food. In an examination of pre-school children made at Bermondsey, Dr. Churchill had found that 70 per cent. of babies of one month were over weight, whereas only 30 per cent. of one year were over weight. As soon as they were weaned the children began to deteriorate, and the deterioration continued until they reached school age. Leaving out nursery schools, which at present only touched a minute fraction of the population, there was no State supervision or nourishment for children between the ages of two and five. These children entered school as delicate, "chesty," ricketty subjects, ripe to take all forms of infection. The "chesty" child became later on the tuberculous child, the ricketty girl of five became, through malformation of the pelvis, a factor in maternal mortality. We were sated with sentimental appeals, Dr. Churchill said, to help sick children in hospital. If we fed the children properly, they would never get there. All surgical tuberculosis, for instance, could be prevented by proper feeding. Turning to the women, Dr. Churchill said that the mother of the family was the last to be fed. Women did not die of starvation every day, but they existed in a state of semi-starvation. By the time these women came to labour they were totally unfitted to bear the strain of it. They had difficult confinements, slow recoveries; sometimes they died and left their children worse off than ever. The present was a time of national emergency. We heard much at the moment about the drought, but little about the famine. But it was famine when the allowance for a child was two shillings a week. In some places in the country water was being taken round in carts. Food needed to be taken round in carts. There should be a floating kitchen visiting the people's homes, where they could get a dinner in exchange for a voucher. Lack of money could not be urged against proposals for feeding the people. The Road Fund had better be a food fund and national money put aside for a sinking fund had far better be sunk in the starving stomachs of children.

LEGAL AND ADMINISTRATIVE ASPECTS

Dr. R. A. LYSTER said that he had been asked to deal with the legal and administrative aspect of the subject. This was important, for it was often possible to start a wave of enthusiasm, which in its turn provoked an official announcement, and the official announcement had power to make the enthusiasm wilt away. For example, the B.B.C. had lately broadcasted talks from the unemployed. These had caused a strong response in the national consciousness. Then came the official utterance, in time-honoured form. It was said that if all the facts were known there would be no tragedy; that there was a statutory obligation upon all local authorities to relieve need where need was proved. It was the truth, but an example of how the truth could be uttered with disastrous effect. For there was no definition of need. The local authorities were the umpires of need and could refuse help or not as they thought fit. Dr. Lyster was a member of a public assistance committee in a reactionary district, which decided not to help anybody who was in receipt of unemployment pay. It was given out that it would be useless for such people to apply. Such conduct was the cause of much starvation. There must be national standards. Otherwise local authorities were free if they wished to disregard their statutory obligations. Taking another example, Dr. Lyster said that about a year ago it was beginning to come home to people that there were millions of their countrymen below the starvation level. All authorities reported an increase in sickness and tuberculosis. The decline in tuberculosis was arrested as it had been during the war. Figures published at this time showed that four shillings and sixpence was the amount allowed by poor-law institutions, who could not be thought to be unreasonably indulgent, and had the advantages of institutional catering, to keep a child in health, while the State allowed two shillings. At this point we read in the report of the Ministry of Health that "there was no available medical evidence of any increase in sickness or mortality owing to depression or unemployment." If this evidence was not available at the Ministry of Health, Dr. Lyster said, the Ministry of Health was the only place where it was not available. The report also pointed out that except in localised areas there had been no increase in physical disability owing to unemployment. In fact, Dr. Lyster said, if we ruled out the bad places, England was doing well. When the Ministry of Health declared that there was not much available evidence it meant that there was not much of this evidence in the reports of medical officers of health for 1932, but the officers were bound by restrictions. Also although the public health service was preventive in aim, it only met the casualties. The Ministry of Health was waiting for the casualties of malnutrition. Again, in the Maternity and Child Welfare Acts of 1918 and 1929, the care of the mother and the young child was given over to the local authority. There was no limit to what might be spent. Yet the local authority commonly neglected this charge. In the same way the power under the Education Act to provide free meals for school-children was neglected. Local authorities entrenched themselves behind the terminology of the Acts, which said "may" instead of "shall."

For £7,500,000 a year half a pint of milk could be given to every elementary school-child in the country daily, but in the present state of legislation, Dr. Lyster said, it was difficult to say what milk was. There was no standard either of cleanliness or of quality. Milk was anything that could be proved to have been squeezed from the udder of a cow. Proof was by the oath of the vendor and his milkman. A county bench of Dr. Lyster's acquaintance had the stainless record of having dismissed every milk prosecution brought before it in twenty years. People were naturally giving up hope. In another famous milk prosecution it had been proved to the satisfaction of the judges that a normal constituent of milk was cow manure.

STANDARDS OF NUTRITION

Prof. J. B. S. HALDANE said that it was now known what people needed in the way of food. It was no longer a matter of theory. The scientist working on this subject in the laboratory had come to the same conclusion as the worker in other fields. We could lay down a definite standard of nutrition. It used to be thought that as long as a certain number of calories were supplied to the body it did not matter in what form. A fact known now was that proteins had specific dynamic action, that they produced more heat than other foods for the body when it was at rest. It was known that protein was necessary for repair and growth, and was therefore of particular

importance to children. It was known that all proteins were not equally good. The right kind of protein cost more than the wrong. The need for the inorganic constituents of food, for lime, phosphorus, and salt was now understood, also the necessity of vitamins. The lack of vitamins did not show for a long time. Teeth, for instance, would be bad in later life owing to lack of vitamins in earlier life. Thirty years ago it was conjectured that "a little of what you fancy does you good." We were now able to give this important statement a more scientific form. When research made a standard possible, then it was time for public action. It was only sixty years since a standard for water had been discovered. Since then cholera and other diseases from bad water had disappeared. We could do the same about food as our ancestors did about water. If our ancestors of the eighteenth century had demanded a pure water-supply from their government they might reasonably have been refused. Neither the knowledge nor the pipes for conveying water were in existence. But now both the food itself and the knowledge about it were in existence. The food-supply, like the water-supply, should be part of the public health service of the country.

Mr. LE GROS CLARK, hon. sec. of the committee, said it owed its foundation to the belief that thousands of people were perturbed about under-nourishment and did not know what individually to do. The committee wished to make practical proposals to these people and to give them information to be used as the basis for logical discussion. With such information they could undermine complacency, which would be left without an argument against proper feeding for all. The committee could elucidate, for instance, the position of local authorities of the type Dr. Lyster described. It could inform its associates, who must be for the most part ignorant on this question, how milk and free dinners were supplied to children in L.C.C. areas. It could give revelations of conditions in various parts of the country. It could give people the stimulus to get to work locally and to start movements locally, out of which a national movement would grow.

An eager discussion followed the set speeches. Dr. ELWIN NASH, having declared his sympathy with the aims of the committee, said that it was impossible to lay down a standard of nourishment. He described his practical researches into the subject of food and his attempts to provide a satisfactory diet on the very smallest amount of money. It was objected that this was an attempt to put up with malnutrition rather than to overcome it. A dietetic experiment made in Scotland was quoted, in which half of a number of children were fed with certain supplementary substances to see if they improved therewith, and half were not. No difference was noted, so that the result was nil, but there was a conclusion—namely, that all the children were too undernourished for the experiment to have any effect. Several teachers spoke of the impossibility of administering education to children who needed food.

CLYDACH WAR MEMORIAL HOSPITAL.—A children's ward of this hospital, with eight beds, nurses' quarters, and the usual appurtenances, which has cost £2000, was opened recently. The Mond Nickel Company and Messrs. John Player and Sons undertook to bear between them such part of the cost as was not covered by subscriptions. The ward is a memorial to the late Mr. John Player, a benefactor, and a tablet to his memory was unveiled by his son, Mr. W. J. P. Player.

MEDICINE AND THE LAW

Problems of Miners' Nystagmus

THE Workmen's Compensation Act was amended in 1931 to remove doubts arising out of litigation about miners' nystagmus. In the House of Lords last week Lord Tomlin said it was a pity that the 1931 amendment had failed to make the position clear. In Bevan *v.* Nixon's Navigation Co. the miner had suffered from nystagmus, an industrial disease which counts as an accident within the course of the man's employment. Unfitted by his disability for his old work at the coal-face, Bevan was able to do light work on the surface at the colliery, but no such work was available. In the circumstances was he still to be deemed suffering from the industrial disease and was he entitled to compensation as for total incapacity? Bevan having lost his case in 1929, the 1931 Act attempted to give a remedy. Thenceforth compensation was to be given to men in his situation if (*a*) they would probably be able, but for the continuing effects of their injury or disability, to obtain work in the same grade in the same class of employment as before the disablement, and if (*b*) their failure to get work was wholly or mainly a consequence of the injury or disability. In French *v.* Archibald Russell Ltd. (the case before the House of Lords last week) the medical referee certified that French was "recovering from an attack of miners' nystagmus, and his condition is such that he is fit for his usual work as a miner." The evidence showed that no colliery in Scotland will employ a workman underground unless he can sign a declaration that he has not previously suffered from miners' nystagmus. Obviously French could not truthfully sign such a declaration; consequently he could never get work below ground in the same grade and in the same class of employment as before the disablement. Was his inability to sign the declaration one of the "continuing effects" of the industrial disease? The Scottish courts held, and the House of Lords has now held also, that the words "continuing effects" must relate to the physical state of the workman and not to any artificial conditions imposed by the employers. Thus the workman loses his appeal and Parliament will probably be asked to try once more to clarify the law.

Two Disablements from One Disease

Another nystagmus case occupied the Court of Appeal last week on a different point. In Timmins *v.* Brodsworth Main Colliery the miner was certified in April, 1928, to be suffering from miners' nystagmus. No date was given for the disablement caused by the industrial disease, and therefore (under Section 43 (2) of the Act) the date of the certificate was reckoned as the date of disablement. Timmins, the miner in question, was paid 30*s.* a week for compensation at the full rate till September, 1929, when he went back to try his old work again. He worked till January, 1930, when his eyes gave him trouble and he had to stop. From this point he was once more paid conpensation at full rates until the following October when light work was found for him on the surface till January, 1932. Afterwards he resumed his old work underground for most of 1932, but eventually he had to stop owing to a septic throat and eye trouble, and on Jan. 7th, 1933, he was certified for the second time to be suffering from miners' nystagmus. In this second certificate the date of disablement was again left blank, so that again the date of disablement was the date of the certificate.

Timmins was now paid compensation at the rate of 24*s*. 7*d*., based on the reduced wages he had been receiving up to the date of the second certificate. He reasonably contended that his second disablement was a recrudescence of the same industrial disease as had caused his first disablement; he therefore claimed to go back to compensation at the original rate of 30*s*. The county court judge agreed with him, finding as a fact that there had been no complete recovery from the original disease. But the Court of Appeal has overruled the county court and has decided in favour of the employers. The Master of the Rolls says that, when Timmins went back to his old work, it was an overt act, indicating that the effects of the first disablement (or "accident") had passed away. By leaving blank the date of the second disablement the certifying surgeon had unequivocally declared that date to be the date of the certificate. The county court judge had no evidence on which to ignore the definite date assigned to the second disablement, and the workman was not at liberty to choose which of the two certificates might best suit his claim. Lord Justice Romer concurred with the view of the Master of the Rolls but, as the workman secured a minority opinion in his favour from Lord Justice Slesser, the case will doubtless be taken to the House of Lords.

LONDON AND COUNTIES MEDICAL PROTECTION SOCIETY

ANNUAL MEETING

THE annual meeting of this society was held on Wednesday, May 30th, at Victory House, Leicester-square, when the President, Sir John Rose Bradford, moved the adoption of the report and statement of accounts for the past year, drawing attention to the position and work of the Society. He was able to record a notable increase of activity during the year both in the number of applications for advice and in the number of cases that required serious consideration, and he added that many settlements had been arrived at which, as shown by letters afterwards received, had proved satisfactory to the members. While, however, he said the membership of the Society had increased, he felt obliged to point out that many doctors, perhaps one-third of the men on the Register, were not members of any defence society, a position which he held to be no exaggeration when it is described as appalling, considering the multifarious risks to which the doctors are exposed in the course of practice. He referred to the death of Sir George Makins, a very old member of the Society who had acted as vice-president and who, though taking little part in the routine business, had shown himself greatly interested in their activities. Sir John closed with an eloquent testimony to the officers of the Society, and the motion that the annual report and statement of accounts and balance sheet should be adopted was carried unanimously.

The meeting proceeded to the election of officers. Sir John Rose Bradford was re-elected president and re-election was also extended to the vice-presidents to which body Sir William Hale-White and Sir Cuthbert Wallace were added. Dr. C. O. Hawthorne endorsed Sir John Rose Bradford's words as to the risks run by practitioners who belong to no defence society and said that the British Medical Association took every opportunity of urging upon the younger members of the profession to become members of one of the defence societies, but, he added, the annual report before the meeting had led him to conclude that it is no less important that members of the profession of riper years should maintain their association with one of these bodies; these might also, through their influence, bring their colleagues into the fold.

Dr. R. L. Guthrie, who was unanimously re-elected treasurer, made a brief statement as to the situation of the finance of the Society for 1933, describing the balance sheet and accounts as disclosing a satisfactory position. The assets had increased by over £5000, and there had been an appreciation of nearly £10,000 in the value of the investments, but he warned the audience that the present position of gilt-edged securities was not permanent, and that some of the appreciation would disappear. The facts that the legal expenses for the year were down, and that the liabilities for costs and damages were lower by nearly £3000 were mentioned, but Dr. Guthrie believed that the circumstances of 1933 were exceptional, while expenditure in the current year might be larger on account of certain outstanding cases.

Dr. C. M. Fegen was re-elected as secretary, a resolution to that effect being carried with applause, as his complete familiarity with the onerous and responsible duties was well known to the meeting. A cordial vote of thanks to Messrs. Le Brasseur and Oakley, solicitors to the Society, elicited the information that during 1933 the firm had dealt with about 650 questions and cases.

At the close of the meeting at the instance of Prof. Mary Lucas Keene appreciation of the work of the president, Sir John Rose Bradford, was warmly expressed.

IRELAND

(FROM OUR OWN CORRESPONDENT)

FINANCIAL POSITION OF THE IRISH HOSPITALS

THE Hospitals Commission, which was appointed last September by the Minister for Local Government and Public Health to advise him on the distribution of the funds accruing from the hospitals sweepstakes, has presented a preliminary report dealing with the financial position of the hospitals participating in these sweepstakes. The report points out the difficulties arising from the absence of a uniform system of accounting in the different hospitals. The Commission, therefore, prepared a system and requested the hospitals to adopt it, fixing the end of their financial year at Dec. 31st of each year. The hospitals willingly accepted the scheme, and thus for the first time in the history of the Irish hospitals it has been possible to make a review of hospital finance. The report states that 35 hospitals show for the year 1933 deficits amounting to £65,000; 15 hospitals show a surplus. The amount invested by the voluntary hospitals out of sweepstake funds is £1,451,000. The total deficits, if income from the funds so invested had not been available, would have amounted to £105,000. The sum required to meet the net deficits, if capitalised at 3½ per cent., would be £1,800,000. The Commission noted, comparing the years 1929 and 1933, the only years for which figures are available, that there has been an increase in the number of free patients of from 10 per cent. to 50 per cent. If this were an indication that a larger number of patients unable to pay for treatment were now receiving free treatment, it would be a high tribute to the usefulness of the sweepstakes. The Commission do not draw this conclusion, but point out that

many of the hospitals complain of an increasing difficulty in receiving payment from patients who are in a position to pay, since the public appear to believe that the sweepstake fund has now reached a figure whereby all may be treated free. "Until such a time," the report goes on, "as hospitals have developed a system whereby patients in a position to pay can be identified without difficulty, a continuance of the present heavy deficits on maintenance, if not an actual increase, may be anticipated." Such a system is at present being devised, but considerable time must elapse before its application will be feasible. The Commission have observed also that since the advent of the sweepstakes there has been a notable decrease in voluntary subscriptions, a factor which also tends to increase the working deficits. Taking a representative group of seven hospitals there was, from 1929 to 1933, a drop of 67 per cent. in voluntary subscriptions.

Passing from the working requirements of the existing hospitals, the Commission consider their plans for development in the future. The claims of the hospitals for increased accommodation amount to close on 3000 beds. If these claims were met, and assuming that half the beds were self-supporting, a modest estimate of the additional deficit would be £150,000 a year, or, at 3½ per cent., a capital sum of over £4,000,000. The capital cost of providing, equipping, and furnishing the additional bed accommodation claimed is estimated to be approximately £7,000,000. From a consideration of the expected income from sweepstakes and the other calls on such funds, the Commission estimate that it will take approximately seven years before the financial position of the voluntary hospitals as reconstructed, enlarged, and equipped in accordance with the claims submitted, will be secure. It may be that the claims are in some degree excessive; the Commission emphasise the necessity for moving slowly where expenditure of large sums is proposed, except in cases where rebuilding, extensions, or alterations on a large scale present "in addition to their urgency, such an improved hospital service that the risk is well worth the taking." In conclusion, the Commission state their desire to establish a hospital system of which the country can be proud and their appreciation of the coöperation shown by all those concerned in hospital management. The report, brief and general as it is, shows a sound grip of the financial situation and embodies a great mass of work and serious thought.

PARIS

(FROM OUR OWN CORRESPONDENT)

THE ACRODYNIA OF YESTERDAY AND TO-DAY

In a recent communication to the French Academy of Medicine, Dr. M. Péhu [1] of Lyons drew attention to the curious vagaries of a disease which a century ago swept down on Paris with fulminating violence and which lasted only for two or three years. It seems to have died out, completely escaping notice for some fourscore years, and then to crop up again as an endemic but comparatively rare disease, with certain salient features profoundly modified, and yet retaining so many of its original characteristics that there can be little doubt as to its identity in the two periods. When acrodynia overtook the Parisians about 1827, its ravages were such that some 40,000 cases were recorded during a brief interval. Chomel described it with more truth than accuracy as a "maladie actuellement régnante à Paris." The term "chiropodalgie" was more informative, but it was discarded in 1930, when Chomel returned to the charge with the more appropriate title of acrodynia which has survived. According to the records of 1830, the disease gave rise to disturbances of the cutaneous, nervous, digestive, and respiratory systems, with involvement of the sweat glands. Symmetrical redness of the hands and feet ceased suddenly at the ankles and wrists. Brown, and even sometimes black, discoloration developed, desquamation was frequent, and the attacks of pain were refractory even to large doses of opium. Children were much less liable to the disease than adults and the aged, and the mortality was far from negligible. The disease disappeared as mysteriously as it came, and nothing was heard of it again till 1903, when a Dr. Selter, of Solingen in the Ruhr, published a very detailed report of a case. In 1916 the Australian, Swift, rediscovered the disease, and Weston in 1920 restored its old and proper title to it. During the past 30 years it has cropped up only now and then and has shown a predilection for childhood, notably from 1½ to 5 years. But slightly contagious, the disease runs a slow course of several months and usually ends in recovery. Relapses are exceptional. It is, indeed, a remarkable fact that, with so many different manifestations, cutaneous, circulatory, nervous, and nutritional, the disease should clear up ultimately without leaving any permanent ill-effects. This problem of a disease which undergoes profound changes in the course of a century is of exceptional biological and epidemiological interest.

TYPHOID FEVER IN PARIS IN 1933

The behaviour of typhoid fever in Paris last year was both instructive and puzzling. Quite recently great improvements have been effected in the Paris water-supply by chlorination and expert interference with the hitherto deplorably common and fortuitous liaison between drinking and other water. Considered as a water-borne disease, typhoid should, therefore, have shown a definite decline last year. So it did, but only up to a certain point. In 1931 1324 cases were notified, and in 1932 1251. From the first of January, 1933, to November of the same year, only 473 cases were notified, and it looked as if this year was going to set a record. But it was badly spoilt when an epidemic broke out in November and claimed still more victims in December, with the result that 922 cases had to be recorded for the whole year. This outbreak coincided with exceptionally cold weather—a factor of considerable importance in a town like Paris in many of whose cellars water may be tapped from two sources—drinking water, and washing water straight from the Seine. This water is the cheaper of the two, at any rate at the moment, and when pipes are frozen or burst, the claims of false economy are re-enforced by dire necessity. The authorities are now trying to eliminate the temptation which this double water-supply offers. Though polluted water was probably responsible for much of the typhoid, no very convincing correlation could be established between the distribution of the cases and the various water-supplies of the areas in which typhoid was most rife. Nor could any foodstuffs or carriers be singled out for special blame. So typhoid remains still, to a large extent, an unsolved problem with us.

UNDULANT FEVER IN LORRAINE

Thanks to the investigations of Prof. Jacques Parisot of Nancy, assisted by Dr. Robert-Lévy, the

[1] Bulletin de l'Académie de Médecine, tome cxi., No. 15, 1934.

ravages of undulant fever in Lorraine have been brought to light, and measures have been taken to limit its further spread among human beings and cattle. A little more than three years ago the disease was non-existent, or at any rate unknown in this area, and in 1929 only two cases came to light. This figure rose to 20 in 1931, to 31 in 1932, and to 43 in 1933. All these 96 cases have been confirmed by bacteriological examinations. It is, of course, not clear how many other cases have escaped detection; the approximate ratio of slight and abortive to clinically well-defined cases is as yet unknown. Among the 96 cases were three deaths. Encouraging results have already followed the chlorination of the water-supply in certain districts, and it is on these lines that the authorities hope to combat successfully not only undulant fever but also typhoid fever and other water-borne diseases in this area.

EVACUATION OF THE WOUNDED BY AEROPLANE IN MAROCCO

An account given in *la Presse Médicale* for May 9th of the campaign in Marocco in 1933, Dr. R. Charlet draws a vivid picture of first aid by the air, contrasting it with the older method of terrestrial transport, with its inevitable delays and sufferings. It would seem that the new arm has replaced the old one to such an extent that, during these operations, the air ambulance service found almost as much employment as the motor ambulances. Smoothly as the former worked, reforms were found necessary in two directions. The ambulance aeroplanes were fitted with one type of stretcher, the motor ambulances with others. This meant the painful shifting of patients from one stretcher to another. The other important lesson was that a rough country demands a type of aeroplane capable of negotiating the most primitive landing grounds.

SPECIALIST OR GENERAL PRACTITIONER?

We used here as elsewhere to be either specialists or general practitioners. Now many of us are specialists with general practice as a distracting avocation. Or we are general practitioners whose interest in, and almost profound knowledge of, certain subjects render us specialists *de facto* if not *de jure*. But how is the money value of the services we render (*a*) as general practitioners, and (*b*) as specialists to be assessed? When there is no third party, and we have none but the patient to consider, it is comparatively easy to treat him with discriminating benevolence. When the State becomes a third party to the transaction, as in the case of the insured and pensioners, war or otherwise, elastic compromise must yield to rigid rulings. They have been applied not long ago to the by no means rare case of the general practitioner with an X ray outfit. As a general practitioner he may find the opinion of a radiologist desirable in a given case. Accordingly, the radiologist examines and reports. Dr. Jekyll needs information, and Mr. Hyde supplies it. There is nothing sinister about this dual personality, but it has been found to cost the State too much. The State now honours the bills of only those radiologists whose patients have been referred to them by another doctor. It is laid down that one must be either a specialist or a general practitioner; it is not possible, under the conditions described, to be a facultative specialist or an optional general practitioner.

PAYMENT FOR BLOOD TRANSFUSION

As from April 1st, 1934, blood donors in military hospitals in France are to be paid according to a certain scale, 50 francs being the price of the first 150 c.cm., and 50 francs for every supplementary 100 c.cm. These charges are doubled when the donor has been artificially prepared for an immuno-transfusion.

PUBLIC HEALTH

SWIMMING BATHS AND HEALTH

THE healthy urge to bathe in the fresh air received little official encouragement until recent times. Well into this century those who wished to swim at any other time than the summer holiday, and who lived far from natural ponds or rivers, were obliged to indulge their craving in small rectangular pools surrounded by a narrow gangway giving access to a row of small clammy cells. The dust or mud deposit on the gangways from the bathers' shoes was for the most part carried into the bath on their feet after undressing. The water was changed perhaps two or three times a week—on days well known to the more experienced bathers. Fresh air and direct sunshine were excluded by a skylight, and by the time the bath came to be emptied the water was of a grey colour and so opaque that bathers could drown, and not infrequently did, without being noticed.

All this is changed. Swimming has become a popular pastime, and every up-to-date municipality provides open-air baths where persons of both sexes can swim, bathe, and bask in the air and sunshine. The extensive use of swimming baths has led to a much better lay-out, and continuous purification of the water is fast replacing intermittent emptying; in fact many baths are so large that the time needed for emptying would put them out of use for an inconveniently long period, and the cost of repeatedly heating such a volume of water would be prohibitive. The assembly of large numbers of bodies in a limited mass of water which is not renewed, but only made up to constant volume, and in which they may spend hours at a time and take active exercise, may lead people to ask their doctors whether they or their children should go to public swimming baths, and the answer needs some consideration.

Every bather, however clean his habits, brings into the bath not only the dirt from his shoes, but dried sweat, grease, bacteria, probably moulds, and miscellaneous dirt accumulated on his skin. After a day at school or at work this accumulation may be considerable, especially if his opportunities of washing and bathing are small. The individual contribution to the bath water may seem insignificant, but if every bather enters the water without preliminary ablution it will soon become obviously dirty as well as bacterially contaminated. Infection of the mucous membranes and of the middle ear have frequently been associated with bathing, and in any case few people would care to bathe in dirty water if they were offered clean. It is therefore desirable that bathers should not reach the undressing rooms by walking along the edge of the bath, and that they should have some means of cleansing the skin, and especially the feet, before entering the water. This can be done by making them pass on their way to the bath under a shower of sterilising water and through a trough filled with similar water. As some do not like cold showers, it may be advisable to have this water warmed. The best way of cleansing the feet is by means of a spray which impinges on a raised

platform on which the foot can be placed; this is likely to clean the spaces between the toes which are specially subject to cracks and sores. All this applies to relatively clean people. Others should have further opportunities of cleansing or be sent away.

Having regard to the effect of cold water on urinary excretion it is desirable that urinals should be situated on the way to the bath, and that children should be required to use them before going into the water.

A bath may be used by none but the cleanest bathers and yet the originally clean water will become contaminated with both dirt and bacteria. Only in those rare cases where water is derived direct from springs, like the hot baths at Bath and Matlock, is it practicable to let water run to waste through the bath. Some means of continually purifying the water is needed. This is achieved by pumping water from the deep end of the bath, coagulating the suspended impurities to form a thin turbid emulsion, filtration through sand, and final sterilisation of the now clear and relatively organic matter-free water. Alum or its equivalent followed by lime is commonly used as coagulant. Sterilisation may be brought about in a variety of ways; the most usual is chlorination, but ozone, catadyn silver, and ultra-violet radiation are all effective if properly used. The process of continual purification if successful will give water which is bright and attractive. As the bottom of the bath is always visible the responsible attendant will be able to see anyone who is in difficulties under water, while such things as cigarette or chocolate cartons and used costumes are less likely to be thrown into water in which they can be seen. The platform surrounding the bath should slope away from the water, and a channel a little above the water level serves both as handrail and spittoon.

Doctors who are consulted by their patients about swimming baths should certainly advise them to avoid public baths not fitted with filtration and sterilisation plants.

Treatment of Bath Water

Small baths can be kept in tolerable condition by simple chlorination, either with chloride of lime or more conveniently with a solution of sodium hypochlorite such as Chloros, if care is taken to add so much as will maintain a suitable excess of free chlorine. One ounce per 6000 gallons is equal to one part per million, and this amount of chlorine is contained in three ounces of good bleaching powder or ten fluid ounces of chloros. To a bath full of clean water rather less than one part per million of free chlorine should be added, care being taken to distribute evenly, and the free chlorine content should be kept up by additions to 0·2–0·5 part per million. This requires daily tests of the water with ortho-tolidene, comparison being made with coloured solutions representing the permissible limits. If the upper limit is not exceeded the water is unlikely to irritate the eyes, and if the lower limit is not reached sterilisation is likely to be unsatisfactory.

FILTRATION

The water will not remain clear for prolonged periods and must be changed before it becomes so turbid that the bottom of the bath at the deepest part is invisible. The use of ammonium salts will help matters, but larger doses of chlorine must then be used and control becomes difficult. Without filtration chlorination is but a makeshift, at best only securing sterility of the water and effecting some economy in its use. The only satisfactory treatment is filtration after coagulation, followed by sterilisation of the clear water, already freed of grosser impurities. This preliminary clarification enables a choice of sterilising agents to be made, and their amount to be cut down to a minimum. The bath is worked as a circulating system and, once filled, very little make-up water is needed to replace losses by evaporation, splash, or overflow at scum channel.

Although some of the impurities introduced into bath water during use can be removed by simple filtration—some indeed, e.g., dead leaves, bathing costumes, by mere straining through a coarse-meshed grid—it is in every way better to introduce into the strained water as it is pumped from the bath a small predetermined dose of a soluble aluminium salt (alum or "alumino-ferric"), followed, if necessary, by sufficient of an alkaline solution (soda ash is the most convenient) to make the liquid alkaline as tested with phenolphthalein. The precipitated aluminium hydroxide will separate with it, either mechanically or by coagulation of colloids, the fine matters in suspension which cause turbidity, as well as those in quasi-solution, in a state removable by filtration through sand. The clear water which passes from the filter contains only matters in solution and bacteria, which have not been removed by the previous processes. Whatever sterilising agent is now used will not be spent in effecting changes on any other impurities than micro-organisms.

STERILISATION

The most common sterilising agent is chlorine, which is best used as gas from steel cylinders. Several firms make plant for coagulation, filtration, and chlorination which is practically fool-proof and requires little attention. If for any reason the handling of a gas cylinder is undesirable the hypochlorite solutions already mentioned can be used; an electrolytic cell is obtainable, specially suitable for small baths. As chlorine is an irritant both to the eyes and nasal passages the amount must be regulated. A simple colour test, with standard limiting tints representing the minimum useful content of free chlorine and the maximum proportion which most persons can tolerate with comfort, is usually supplied with the plant for treatment. The water leaving the bath should contain the minimum and that entering approximately the maximum.

Where an electric supply is available the use of ozone or of ultra-violet rays is worthy of consideration. Ozone has been used largely on the continent for sterilising drinking water, and a plant erected at Barn Elms by the Metropolitan Water Board not only sterilised the water but greatly improved its colour. The residual dose can easily be adjusted so that there is only the merest smell of the gas, which is not unpleasant. Ultra-violet light can be used successfully to sterilise clear well-filtered water and is effective when none of the water flowing past the lamp is more than 12 inches from it and the exposure lasts at least 4 seconds. It should be easy to use a much smaller working distance than this. Advantage may well be taken of the formation of ozone in the region of the lamp, by letting the ozonised air flow through the water, thus giving it some residual sterilising power in its passage through the bath. The shorter waves appear to be the most effective.

A method of sterilisation unlike all the others is the Catadyn process in which the filtered water on its passage back to the bath either flows over sand coated with silver, or a portion of this returning water flows past two silver electrodes between which a small current passes. An extremely small amount of silver

ions goes into the water from the anode. The silver introduced in this way or from sand possesses remarkably high sterilising power, provided the water is relatively free from organic matter other than bacteria. No smell is imparted to the water, which retains a sterilising power for some time, exerting an inhibitive effect on green growths. This oligodynamic action of silver and other relatively noble metals, although not well understood, is simple to apply and merits further study.

The economic use of filtration and sterilisation is now made easy by the many makes of plant for this purpose.

A Hop-picking Dispute Settled

As our readers will recall, difficulties have arisen for some years past about the responsibility for the treatment of infectious disease occurring among Londoners who had gone to pick hops during the season in Kent. Last year the London County Council were unwilling parties to the transference of two cases of diphtheria from Kent to their homes in St. Marylebone, and the L.C.C. asked the Minister if it would not be possible to make it obligatory on a local authority to treat persons suffering from infectious disease temporarily resident within its district. As a result of this request the following new regulation is to come into force on July 1st next:

The London County Council, the council of every borough or urban or rural district and every joint hospital board constituted under the Public Health Act, 1875, and having the powers of Section 131 of that Act, shall have the same powers and duties in relation to the provision of hospitals or temporary places for the use of persons who are for the time being within their county, borough or district, as the case may be, and are suffering from infectious disease, as they have for the use of the inhabitants of that county, borough or district.

The L.C.C. has informed the Minister of its willingness to enforce a regulation of this kind.

At its meeting on Tuesday the London County Council agreed to the proposal of its hospitals and medical services committee to remove to St. James' Hospital the plastic surgery unit at present at Hammersmith Hospital. The transfer will take effect on August 1st next. The arrangement includes the provision of one position of plastic surgeon and one of assistant plastic surgeon for one session a week each at a salary of £125 a year.

INFECTIOUS DISEASE

IN ENGLAND AND WALES DURING THE WEEK ENDED JUNE 9TH, 1934

Notifications.—The following cases of infectious disease were notified during the week: Small-pox, 2 (last week 2); scarlet fever, 2368; diphtheria, 1101; enteric fever, 16; acute pneumonia (primary or influenzal), 939; puerperal fever, 60; puerperal pyrexia, 110; cerebro-spinal fever, 24; acute poliomyelitis, 3; acute polio-encephalitis, 2; encephalitis lethargica, 5; dysentery, 7; ophthalmia neonatorum, 89. No case of cholera, plague, or typhus fever was notified during the week.

The number of cases in the Infectious Hospitals of the London County Council on June 18th–19th was as follows: Small-pox, 3 under treatment, 0 under observation (last week 3 and 0 respectively); scarlet fever, 1624; diphtheria, 1686; measles, 1750 (last week 1890); whooping-cough, 281; puerperal fever, 22 mothers (plus 6 babies); encephalitis lethargica, 269; poliomyelitis, 2; "other diseases," 178. At St. Margaret's Hospital there were 20 babies (plus 7 mothers) with ophthalmia neonatorum.

Deaths.—In 121 great towns, including London, there was no death from small-pox, 3 (0) from enteric fever, 60 (22) from measles, 5 (2) from scarlet fever, 27 (6) from whooping-cough, 30 (4) from diphtheria, 45 (21) from diarrhœa and enteritis under two years, and 36 (6) from influenza. The figures in parentheses are those for London itself.

Brentford and Chiswick, Southampton, and Worcester each reported a death from enteric fever. Stoke-on-Trent reported 5 fatal cases of measles, Salford 4, Newcastle-on-Tyne 3, no other great town more than 2. Liverpool reported 5 deaths from whooping-cough, Birmingham 3.

The number of stillbirths notified during the week was 271 (corresponding to a rate of 39 per 1000 total births), including 52 in London.

PANEL AND CONTRACT PRACTICE

An Election without Enthusiasm

THE Ministry of Health has decided to keep the present personnel of insurance committees in office for another three years and the Insurance Acts Committee has, with a show of reluctance, agreed to this course. On the other hand the panel committee for the County of London goes out of office at the end of this month and a new committee is now in the course of election. The machinery for this is elaborate. Every practitioner on the medical list is furnished with a list of names and addresses of those eligible for election, who include any doctor in practice on his own account or in partnership. Assistants are not eligible. Each borough has so many seats on the committee according to the number of insurance practitioners in its area. A returning officer is appointed and approved by the Minister; nomination forms are sent out and signed by the candidate as willing to serve after being proposed and seconded by two members of the profession in that area. The date of election is then fixed and a voting paper sent to every insurance practitioner, giving the names of candidates nominated in his borough. The completed voting paper may be posted to the returning officer to reach him not later than the morning of the appointed date or it may be handed to the returning officer at the agreed meeting place; but it may not be sent by proxy to the meeting. After the election it is usual for an address to be given by someone conversant with the past work of the committee. A speaker is selected who does his best to reply to any questions raised of difficulty under the Act.

How well these elections are conducted, what ample precautions are taken to ensure a proper election—may be the thought in the mind of the uninitiated. The facts are different. In London insurance practitioners do not take the slightest interest in these expensive and elaborate proceedings. A recent meeting held in the Battersea Town Hall for the adjacent boroughs of Battersea and Wandsworth was attended by exactly four doctors. Three of these were old members of the panel committee up for re-election and one was a new candidate to be elected. There were five candidates for eight seats for the borough of Wandsworth; three of those seats remain to be filled. Such elections scarcely justify so expensive a procedure. But it may be time for insurance practitioners generally to be roused from the lethargy in which they appear to be living. Medical men who serve on the London panel committee give their services gratuitously; many of them devote hours each week to the work of committees and subcommittee meetings besides representing the panel on insurance committee, medical service subcommittee or after-care com-

mittee, let alone accompanying the regional medical officer when making inquiry about excessive prescribing or improper certification. The apathy is found to disappear when a question of finance arises; practitioners are sure to attend a meeting to protest against a reduction of the capitation fee, or to blame the panel committee for allowing such reduction to take place. But they are unwilling to enter attendances and visits on record cards to enable officials to get a proper measure of the total work done—and thereby definitely hinder negotiations on fees. Practitioners might take more interest in the committee's work if they were to pay their representatives; an alternative would be to make service on the panel committee for a certain period obligatory on all insurance practitioners, a procedure which would meet with certain resistance.

The Record of the London Panel Committee

A brief résumé may now be appropriate of the work of the London panel committee, which represents nearly 2200 practitioners, during the last three years. One subcommittee prepared a long and exhaustive argument against the conclusion set forth by the Government in Memo. 329 in which the medical profession was charged with inefficient certification as a cause of increased sickness claims. This took several meetings each of some hours' duration. The panel committee itself circulated prescribing statistics to insurance practitioners pointing out where they exceed the areal average. Certain members of the committee have given lectures gratuitously on health insurance regulations to senior students of various London medical schools. They arranged a conference between themselves and representatives of approved societies for the discussion of vexed questions such as certification in pregnancy, simplification of rules, and the status of sick visitors.

This conference was held in a friendly atmosphere and was perhaps the best piece of work ever done by the panel committee. A deputation from the committee interviewed the out-patient committee of King Edward VII. Hospital fund upon the general question of out-patient attendance. A memorandum upon the adequacy of the capitation fee was sent to the Insurance Acts Committee—another long and arduous piece of work. The payment for temporary resident treatment in convalescent homes has largely been reduced by its efforts. The panel committee is still trying to obtain a better service of medicine to insured persons after closing of chemists' shops. There are many other actions and decisions in which the committee has taken part in addition to its normal routine work, and of these our columns have perhaps given evidence enough. Perhaps the apathy of the election is really a compliment to those who do the work; it is being done so satisfactorily that there is nothing to complain about.

CORRESPONDENCE

"NEW METHOD OF LOCAL ANÆSTHESIA FOR ABDOMINAL OPERATIONS"

To the Editor of THE LANCET

SIR,—The new method of local anæsthesia for abdominal operations used so successfully by Dr. George Bankoff in over 500 cases and described by him in your issue of Feb. 10th (p. 287) was devised by me 13 years ago (Zentralbl. f. Chir., 1921, No. 23). A survey of the literature on this new method which I named "local anesthesia by intra-abdominal clysis" was published by me ten years later (Ibid., 1931, No. 19). This paper covered investigations of ten authors on the subject. No modification of my original method has been developed as far as I know. Up to 1929 novocain was the anæsthetic of choice. I recommended 0·5 g. of the drug in ½ to ¼ per cent. solution together with adrenaline. The results obtained were quite striking from the beginning. There was no doubt that this method was a simple way towards a complete regional anæsthesia of the abdominal cavity. However, the anæsthesia was not perfect with novocain, as novocain is rather a poor surface anæsthetic. The excellent results reported by Dr. Bankoff on over 500 laparotomies, in spite of the use of novocain, are in my opinion the best compliment for the method itself.

In 1929 a decided step forward is to be recorded with the introduction of Nupercaine (also known as Percaine). This drug proved to be far superior to novocain in its action on surfaces and in its penetrability. No wonder that the very first publication on nupercaine pointed explicitly to the "excellent" results obtained in regional abdominal anæsthesia. The author of this paper, Prof. C. Henschen, of Basle, Switzerland, determined the dosage of nupercaine for intra-abdominal clysis as 80 to 150 c.cm. of the 0·05 per cent. solution, a strength generally adopted by later investigators. Among these were: F. Mandle, Clinic Hochenegg, Vienna; M. Richard, University Clinic, Basle; Prof. A. Eiselsberg, Vienna; Abel, Berlin; G. Neumann, Muerzsuschlag; H. Gangle, Berlin; Prof. E. Payr, Leipzig.

Great care should be taken not to use excessive doses of nupercaine as it is almost as toxic as cocaine. For this reason, nupercaine in its present method of use is as yet not ideal for our special purpose of intra-abdominal anæsthesia. Further research is being carried on, in the hope of developing a less toxic solution by altering the vehicle. There is also a new local anæsthetic, Metycaine, under my investigation that seems to be very active by topical application to surfaces and has a toxicity comparable to that of novocain. Reports published on this anæsthesia corroborate unanimously my favourable results. A number of enthusiastic surgeons proclaimed it the future standard anæsthetic of the abdomen. The veterinary surgeons, Prof. W. Lindner and W. Hinze, University of Berlin, consider the method revolutionary in their special field. Certain advantages of the method are indeed quite superior to other methods of regional abdominal anæsthesia. The administration is very simple. The duration is prolonged—at least twice that of spinal anæsthesia. The intestinal peristalsis is not interfered with, &c.

More details may be found in my above-mentioned survey of the topic. This communication is not so much intent upon establishing priority of the method as against Dr. Bankoff's. It means to encourage other surgeons to give it a fair trial.

I am, Sir, yours faithfully,

MAX BARUCH,
Director, Surgical Department, Central Neurological Hospital, New York City.

June 3rd.

HISTAMINE IN RHEUMATISM

To the Editor of THE LANCET

SIR,—The article by Dr. B. Shanson and Mr. C. G. Eastwood in your last issue (p. 1226) is of interest in confirming work already published on the continent

and in this country on the effects of histamine in rheumatic conditions, but a more detailed account of the clinical results in the various types of cases treated would have been of value. Only one type of case seems to have shown marked improvement when treated by the hypodermic method—viz., peri-articular arthritis in the hand with circulatory disturbance. They were unable to obtain any clinical evidence of the characteristic histamine effect by ionisation methods and attribute the results to local galvanism, heat, and counter irritation only. They are alone in this finding however, as other observers appear to obtain readily the complete gamut of physiological effects by this method, as by the use of histamine hypodermically.

That the response to histamine varies from patient to patient and at different times in the same patient is surely an argument against injection, as ionisation can be so regulated that no untoward systemic symptoms need ever arise. Having prescribed over 3000 histamine treatments at the Royal Baths, Harrogate, during the last three seasons, my findings are that good results may be definitely obtained in many types of rheumatism. Identical results are reported by Dr. McKenna and various continental writers.

I am, Sir, yours faithfully,

Harrogate, June 12th. A. A. BISSET.

THIOL-HISTAMINE

To the Editor of THE LANCET

SIR,—My attention has been drawn to certain articles you have published recently upon preparations of histamine for rheumatism, wherein whatever credit is due for their discovery has been given to German workers. I introduced thiol-histamine in 1917, since when I have used it on a large scale. Frequent references have been made to the preparation in my works on the Nature of Disease, and you were kind enough to publish a letter for me on May 6th, 1933. May I ask you to be so kind as to correct the omission to which I am referring.

I am, Sir, yours faithfully,

J. E. R. MCDONAGH.

Wimpole-street, W., June 16th.

DISTRICT ALMONERS

To the Editor of THE LANCET

SIR,—It is now generally recognised that almoners are indispensable in all our hospitals; and suggestions are being made that there should be district almoners, whose services would be available to all.

It is unnecessary to tell those who have worked on the visiting or resident staff of a hospital in recent years what an almoner can do, but there must be many in practice who have never been able to write upon a hospital patient's card "Will the Lady Almoner please do this or that," and consequently many who do not realise how much an almoner can do to help to get the best results out of treatment. It will interest these to know that the almoner can usually procure all those things for a patient that doctor or nurse cannot procure: abdominal belts, and all other types of surgical appliances, extra nourishment or particular articles of diet, dressings, and special care of any sort for those otherwise unable to obtain them.

Patients with advanced cancer; those with Graves's disease whose home conditions are unsuitable; children who have come from a distance for the specialist's opinion are recommended treatment with rest in bed and may not even have a bed to themselves; all these and many other similar cases can be dealt with by an almoner.

Convalescence can be arranged, and although the patient at first mention of this may fear the loss of his job by so long an absence, yet it is usual to find that an almoner can approach his firm and get over this difficulty, often obtaining a grant partially to cover the cost.

Naturally the services of an almoner are not for the well-to-do, but with the assistance of a district almoner practitioners could give better service to their patients, such a large proportion of whom are in varying degrees of domestic or financial difficulties.

It would be interesting to hear the views of other practitioners on this subject as it is felt that before further steps can be taken it is necessary to have an idea of the support that can be obtained.

I am, Sir, yours faithfully,

GEOFFREY HALE.

Eccleston-square, S.W., June 16th.

CONTINENTAL ANGLO-AMERICAN MEDICAL SOCIETY

To the Editor of THE LANCET

SIR,—On July 27th at 12.30 P.M. this society will meet for luncheon at the Bournemouth Pavilion on the occasion of the B.M.A. annual meeting. It is hoped that all former members now resident in Great Britain will endeavour to attend on the first such occasion since the war. Any doctors attending the meeting who have patients wintering on the continent will be welcomed at the luncheon. Those who wish to be present should communicate with Dr. E. L. Gros (President) 23 Ave. Maréchal-Foch, Paris, Dr. R. Pryce-Mitchell, Villa Henri, Monte-Carlo, or with the undersigned.

I am, Sir, yours faithfully,

TOM A. WILLIAMS.

Royal Societies Club, 63, St. James's-street, S.W.1, June 19th.

BIRMINGHAM HOSPITALS CENTRE.—The Prince of Wales will lay the foundation-stone of the Birmingham Hospitals Centre at Edgbaston on Oct. 23rd. On the same day he will cut the first sod on the site of the Birmingham University Medical School, which is an integral part of the hospitals centre project. It is expected that the first portion of the new hospital will be ready for opening in October, 1937.

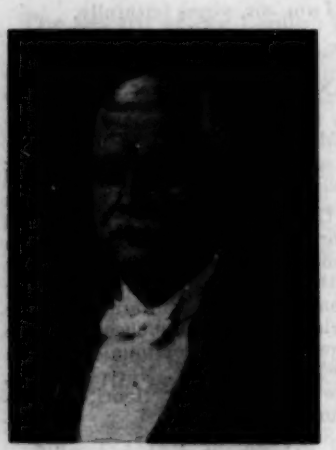
SCARBOROUGH HOSPITAL.—The detailed plans for Scarborough's new hospital, which is to be built at a cost of over £100,000, are now available. The buildings are to be fireproof, and as far as possible soundproof. Advantage has been taken of a sheltered situation to have large sunny balconies and a solarium for the children. The hospital will have 140 beds, including a number for paying patients, and three operating theatres. The theatres have a ventilating plant which makes it possible to change the air or raise or lower the temperature very rapidly. The X ray therapy and light treatment departments and the massage and orthopædic rooms are on the ground floor and are connected by two bed lifts with the wards. The out-patients' department has a large waiting-room where there will be a refreshment counter, and a shelter for prams has also been provided. The dispensary is easily accessible both to the wards and to the out-patients' department. The kitchen is a self-contained unit and the food will be served from heated trolleys so that appetising and hot dishes may reach the most distant wards. The laundry and boiler room are also self-contained, and a supplementary electrical battery room will be able to provide current for the operating theatres and other parts of the institution if the municipal supply should fail. There are rooms for the visiting and administrative staff in the main building, and a separate home for the sisters and nurses.

OBITUARY

MICHAEL GEORGE FOSTER, M.D. Camb., F.R.C.P. Lond., O.B.E.

WE regret to record the death of Dr. Michael Foster, the well-known authority on climatology, which occurred on Saturday last, June 16th, at Fincham, Norfolk, the home of his mother's family, after a short attack of pneumonia.

Michael George Foster was born in 1864 at Huntingdon, the only son and elder child of Sir Michael Foster, the famous Cambridge professor of physiology. Huntingdon was the private home of his father, while his grandfather, also a Michael, had been a surgeon in the same city. The childhood of the young Michael coincided with the remarkable development of the Cambridge science schools under his father, and he knew many who later became leading teachers as big boys.



DR. MICHAEL FOSTER

[Photograph by Elliott & Fry

Foster was educated at University College School, London, and Trinity College, Cambridge, and graduated with honours in the Natural Science Tripos in 1884. He entered Trinity too young to be a competitor for academic honours, but he acted as a junior demonstrator of physiology in the University. He proceeded for his medical education to University College Hospital, where he was a prizeman in surgery and in clinical medicine. He took the double English diploma in 1888, and the M.B. Cambridge in 1890, served as house surgeon, when post-graduate work in Vienna and Geneva followed. In 1891 he obtained the Swiss Federal Diploma.

At the very commencement of his professional career Foster showed most unmistakable signs of tubercle. He took two long sea voyages, but finally decided that he could not winter in England. This prevented him from seeking any official or hospital preferment in this country, and, after short sojourns at Maloja and Alassio, he proceeded to San Remo, where for many years he practised from November until May, returning to England for the warmer months. He built up a large practice in the Riviera, the outcome alike of sound clinical knowledge and sympathetic comprehension of the physical and mental make-up of a difficult order of patients, and soon attracted professional attention by his knowledge of the effects of climate on disease and by his early advocacy of open-air treatment of tuberculosis. On these subjects he collaborated with Hermann Weber in a contribution to Hale-White's text-book of Therapeutics, while in 1905 he contributed, also jointly with Weber, the section on climate and disease to Allbutt and Rolleston's System of Medicine. In this competent essay were set out the claims of the various climates of the world, and of Europe in particular, for restorative effects in many classes of disease, and the writers close with an exposition of the way to utilise home climates, a subject dear to Foster's heart, since his regard for our own shores was never dimmed by his long sojourns away from them.

Some twenty years ago he embarked upon spa practice in Harrogate, still alternating his residence during the cold months with San Remo. At Harrogate his medical and personal qualities continued to secure him the regard of patients and colleagues alike, but his practice at this period was interrupted by the war. He did good war service. At the outbreak of hostilities he became a temporary officer in the R.A.M.C., being attached to the 2nd Eastern General Hospital with the rank of Captain. Important work here upon cerebro-spinal fever attracted attention, and he was sent to the 55th General Hospital attached to the B.E.F. in 1917, with the rank of Major, while later, with the rank of Colonel, he became consulting physician to the Forces. He was twice mentioned in despatches and created O.B.E. To the Medical History of the War he contributed notes upon the occurrence of cerebro-spinal fever in 1916, in which year he was elected F.R.C.P.

Wherever Michael Foster was he collected practical information upon the treatment of diseases, as influenced by the effect of climate and the technique and amenities of treatment at health resorts. The result was a recently published book entitled the Baths and Medicinal Waters of Britain and Europe, a review of which appeared in our columns a few weeks ago. In this book brief descriptions are given of the different kinds of waters and baths and their uses, while a short survey is included of the principal British and European spas, the information being brought up to the present day. An important lesson to be learned from these pages is that some of the leading spas have begun to make certain courses of therapeutics into a specialty of the place, for it is now recognised that some such classification is needed both in the interests of patients and for the information of doctors.

In his later years Foster was the victim of osteo-arthritis, and in 1931 he retired from practice as the result of increasing physical disability. He was the most uncomplaining of invalids, his sweet and charitable temper distinguishing him to the end as it had done throughout his career. He used his leisure to write the useful treatise referred to above, became actively interested in the International Society of Medical Hydrology, and as a member of the advisory committee of the British Health Resorts Association reported on many of the spas in this country despite his increasing lameness.

Foster was twice married. By his first wife, the daughter of Mr. R. Y. Shipley, C.B., he had three sons and one daughter.

HENRY WATSON SMITH, O.B.E., M.D. Aberd.

Dr. Watson Smith, medical director of the Lebanon Hospital for Mental Diseases, died suddenly of angina pectoris on June 12th, when on visit to this country on furlough. During his 25 years of office he had built up at Asfuriyeh, near Beirut, a mental hospital unique of its kind in the Near East. In the absence of any system of certification in Syria he had the chance of receiving many cases in the early stages of mental disorder, and patients travelled to consult him from Egypt, Iraq, Turkey, and Persia.

Henry Watson Smith was born in 1879 near Aberdeen, the son of a banker, but the influence of his uncle, Dr. C. J. Watson of Heigham Hall Asylum, Norwich, turned his thoughts towards the mental side of medicine. He qualified at Aberdeen with many honours in 1901, and held the usual house appointments, followed by posts of house surgeon at the West Suffolk hospital, and of second assistant officer at the Durham county mental hospital. In February, 1909, he went to Lebanon, having first obtained the Turkish medical degree at Constantinople. Later, he added to French a thorough working knowledge of Arabic.

DR. WATSON SMITH

[Photograph by Abd. Bayrud

Apart from his thesis on general paralysis, which gained him the M.D. Aberd. in 1912, Dr. Watson Smith has left little in print. The time that he could spare from clinical and administrative work was given up to teaching medical students at the (American) University of Beirut, where he was appointed professor of psychiatry and neurology in 1926. Regular classes at Beirut and at Asfuriyeh, six miles away, became compulsory for fifth-year students, and he was able to inculcate a grounding of sound mental medicine in men of all nationalities. Any who showed special interest came for a period of two months to work at the hospital and in the attached laboratory. The teaching side of this work was the more important since 35 years ago, when the hospital was founded, any thought or care for mental sufferers in Syria was simply non-existent, beyond the cruel rites of exorcism practised by religious fanatics.

In this result the personality of the director played a great part. His quiet and pleasant ways of dealing with people and affairs won him not only the trust and confidence of his patients and their friends and of the whole staff, but also the respect and goodwill of successive rulers of the country. In the campus of the American University he was a familiar figure, while his attachment to freemasonry brought him into contact with wider groups. He is said to have been the only British subject allowed to remain in Syria during the war, and had it not been for his representations the hill on which the hospital stands would have been used for gun emplacements. As it was, the site was respected by Jemel Pasha as a religious foundation. In 1917, Dr. Watson Smith was able to receive many of General Allenby's men at the hospital during a serious epidemic of influenza in recognition of which he received the O.B.E.

It was perhaps after this time that he began to show his special qualities as an administrator. Out of the meagre funds obtainable for some years from Europe and America, he contrived to restore and re-equip the buildings and develop the 36 acres of land, so that by 1924 the place was ripe for expansion. Pavilion after pavilion was built under his personal supervision, without architect or contractor, including a model steam laundry: an artesian well of 400 feet was successfully bored and a scheme of olive-planting, olive-pressing, and soap-making started. In November last, a new house for women was built entirely out of local funds, helped by capitation fees from the Franco-Syrian authorities for poor patients, and was opened by the president of the Lebanon Republic, who bestowed on Dr. Watson Smith the highest decoration given to a foreigner.

Dr. Watson Smith leaves a widow, and two sons, both of whom are studying medicine at Birmingham.

MEDICAL NEWS

University of Cambridge

At a congregation held on June 8th the honorary degree of master of arts was conferred on Sir Charles Martin, F.R.S., formerly director of the Lister Institute of Preventive Medicine.

Royal College of Surgeons of England

A meeting of the Council was held on June 14th, with Sir Holburt Waring, the president, in the chair. He announced the appointment of Prof. William Wright as Thomas Vicary lecturer for 1934.

The following appointments were made for the primary fellowship examination to be held at Dunedin in December: Prof. W. P. Gowland, assessor in anatomy; Prof. John Malcolm, assessor in physiology; and Mr. Herbert Chapman, superintendent of the examination.

Diplomas of fellowship were granted to the following candidates:—

G. F. Rowbotham, L.R.C.P., Manchester; N. L. Shepperd, M.B. Lond., King's Coll.; R. W. Doyle, M.B. Liverp.; William Buckley, L.R.C.P., Camb. and St. Bart.'s; W. A. Elliston, M.B. Camb., St. Bart.'s; G. K. McKee, L.R.C.P., St. Bart.'s; S. W. Holmes, M.B. Lond., St. Mary's; C. E. Markby, L.R.C.P., Camb. and St. Thomas's; J. K. Stanger, M.B. Durh.; R. J. Furlong, M.B. Lond., St. Thomas's; M. W. C. Oldfield, B.M. Oxon., Leeds; G. T. Partridge, M.B. Camb., St. Bart.'s; E. A. Devenish, M.B. Lond., Univ. Coll.; A. L. Eyre-Brook, M.B. Bristol, St. Bart.'s; R. S. Lewis, L.R.C.P., Camb. and St. George's; H. R. Thompson, M.B. Camb., London; H. F. Moseley, B.M. Oxon., St. Thomas's; H. J. B. Atkins, B.M. Oxon., Guy's; R. G. Pulvertaft, L.R.C.P., Camb. and St. Thomas's; Abbas Hilmy, L.R.C.P., Cairo and Guy's; K. S. Ayyar, L.R.C.P., Guy's and St. Bart.'s; D. B. McGavin, M.B. Camb., St. Bart.'s; J. R. Vaid, L.R.C.P., St. Bart.'s; R. D. Ayyar, L.R.C.P., Madras and London; Satyanarayana, Sunkavally, L.R.C.P., Madras and London; F. N. Chenhall, M.B. Sydney; E. J. Collins, M.B. N.U. Irel., Dublin and London; J. V. Guinane, M.B. Sydney, St. Bart.'s; A. I. Hunter, M.B. N.Z., Otago; Sydney Krantz, M.B. Adelaide; J. P. F. Lloyd, M.B. Birm., St. Bart.'s; Andrew Logan, M.B. St. Andrews; C. J. Lord, M.B. Belf., London; S. B. Morris, M.B. N.Z., Otago; D. G. Radcliffe, M.B. Sydney, Otago; and E. B. Whittingham, M.B. Liverp., St. Bart.'s.

Diplomas of membership were granted to A. T. Roden (Bart.'s), H. C. Hugh (Bart.'s), and B. L. E. Wong (Guy's).

At the primary examination for the fellowship, from June 5th to the 16th, 197 candidates presented themselves, of whom 66 were approved and 131 were rejected. The following are the names and medical schools of the successful candidates:—

H. Ackers, M.R.C.S. Liverp.; H. Agar, M.B. Leeds, St. Mary's; H. R. Alban, Cardiff; M. Albert, Univ. Coll.; H. G. E. Arthure, M.R.C.S., Middlx.; J. I. M. Black, M.B., Durham; I. N. Blusger, M.R.C.S., Cape and St. Bart.'s; A. Bowen-Davies, M.R.C.S., Camb. and Guy's; W. Bullock, M.B. Liverp.; H. L. Cochrane, M.B. Belf., Univ. Coll.; L. Z. Cosin, M.R.C.S., Guy's; A. G. Cross, M.D. Camb., St. Mary's; H. L. Davies, M.B. Liverp.; I. H. Davies, Cardiff and Middlx.; H. K. Doctor, M.B. Bombay, St. Bart.'s; A. Dornan, M.B. Belf., Middlx.; Katherine W. Dunn-Pattison, Lond. Sch. Medicine for Women; B. H. Ellis, St. Bart.'s; J. S. Ellis, St. Thomas's; F. R. Edwards, M.B. Liverp.; R. H. Franklin, M.B. Lond., King's Coll. and St. Thomas's; S. G. French, M.B. Lond., Univ. Coll. and St. Mary's; H. W. C. Fuller, King's Coll.; Dorothy M. Gladwell, Lond. Sch. Medicine; H. Goldfarb, M.R.C.S., L.R.C.P., M.B. Lond., Univ. Coll.; D. L. Griffiths, M.B. Manch.; E. H. Hambly, St. Bart.'s; A. J. Heriot, King's Coll.; G. Hyman, M.B. Leeds, Middlx.; W. H. G. Jessop, M.B. Camb., Univ. Coll. and St. Mary's; H. H. Langston, M.B. Lond., St. Bart.'s; A. D. Le Vay, Univ. Coll.; J. W. S. H. Lindahl, B.Ch. Camb., St. Thomas's; C. J. Longland, St. Bart.'s; G. H. Macnab, M.B. Edin., King's Coll.; R. L. Mehra, M.B. Punjab, Univ. Coll. and Middlx.;

M. S. M. Mehta, M.B. Bombay, Guy's; D. V. Nadkarni, M.B. Bombay, Middlx.; M. L. Pan, M.B. Calcutta, St. Bart.'s; A. R. Parkes, M.B. Edin., St. Andrew's and Middlx.; E. R. G. Passe, M.R.C.S., London and Middlx.; E. W. Peet, M.B., Durham and Middlx.; G. L. Pett, St. Thomas's; J. W. Pugh, M.B. Oxon., Univ. Coll.; J. L. D. Roberts, St. Bart.'s; A. Rose, M.B. Dubl., Univ. Coll.; H. L. M. Roualle, St. Bart.'s; V. Sankarambal, Madras and Lond. Sch. Medicine; K. C. Sarkar, M.R.C.S. Calcutta, Guy's and King's Coll.; P. G. Scott, M.R.C.S., Camb. and St. Bart.'s; H. Soudamore, M.B. Camb., London; W. M. H. Shaw, Leeds; F. W. Shepherd, M.R.C.S. Camb. and St. Bart.'s; J. Sherne, M.B. Leeds, Univ. Coll.; J. G. C. Spencer, M.R.C.S., London; J. A. Stallworthy, M.B. Otago, King's Coll.; R. Strang, M.B. Edin., Guy's; A. W. G. Sutherland, M.B. N.Z., Otago and Univ. Coll.; T. G. Swinburne, M.B. Melb., Middlx. and Univ. Coll.; R. G. Taylor, M.B. Dubl., Middlx.; G. Townsley, M.B. Belf., Middlx.; H. I. Turnbull, M.B. Sydney, Middlx.; M. G. Vatsalya, M.R.C.S., Bombay and Univ. Coll.; R. E. Waterston, M.B. Edin., King's Coll.; W. E. Wimberger, M.B. Birm., King's Coll.; and R. F. Winckworth, M.B. Lond., St. Thomas's.

The following were elected examiners for the ensuing year:—

Dental Surgery.—Surgical Section: Mr. Russell J. Howard, Mr. C. E. Shattock, Mr. C. P. G. Wakeley, Mr. P. H. Mitchiner, Mr. E. G. Slesinger, and Mr. Reginald Vick.

Primary Fellowships.—Anatomy: Mr. J. Basil Hume, Mr. Grant Massie, Mr. Gordon Gordon-Taylor, and Mr. P. N. B. Odgers. Physiology: Prof. G. A. Buckmaster, Dr. D. H. de Souza, Prof. Samson Wright, and Prof. Hamilton Hartridge.

Diplomas of L.R.C.P., M.R.C.S.—Elementary Biology: Mr. T. J. Evans, Mr. G. P. Mudge, Mr. C. C. Hentschel, and Mr. A. J. Grove. Anatomy: Prof. W. E. Le Gros Clark, Prof. H. A. Harris, and Mr. E. P. Stibbe. Physiology: Dr. A. St. G. J. McC. Huggett, and Prof. Samson Wright. Midwifery: Mr. L. Carnac Rivett, Mr. Malcolm Donaldson, Mr. A. C. Palmer, and Mr. V. F. Lack. Pathology: Mr. C. E. Shattock, Mr. Robert Davies-Colley, Dr. R. G. Canti, and Prof. James McIntosh.

Diploma in Public Health.—Part I.: Prof. C. C. Okell. Part II.: Dr. James Fenton.

Diploma in Tropical Medicine and Hygiene.—Major-General D. S. Harvey and Dr. G. Carmichael Low.

Diploma in Ophthalmic Medicine and Surgery.—Part I.: Sir Stewart Duke-Elder and Mr. C. Bernard Goulden. Part II.: Mr. R. Foster Moore.

Diploma in Psychological Medicine.—Dr. J. G. Greenfield.

Diploma in Laryngology and Otology.—Part I.: Mr. E. Musgrave Woodman and Mr. Sydney Scott. Part II.: Mr. T. B. Layton.

Diploma in Gynæcology and Obstetrics.—Mr. J. D. Barris.

Diploma in Medical Radiology.—Part I.: Prof. J. M. Woodburn Morison. Part II.: Dr. J. H. D. Webster.

University of Bristol

At recent examinations the following candidates were successful:—

M.D.

Herbert Rogers (with distinction), F. H. Bodman, J. J. J. Giraldi, and N. L. Price.

CH.M.

G. F. Langley (with distinction).

FINAL EXAMINATION FOR M.B., CH.B.

Part I. (including Forensic Medicine).—M. A. Nicholson and Broughton Ridgway.

Part II.—A. C. Molden (First Class Honours); A. G. W. Branch, Rosalind M. S. Derham, and C. H. G. Price (Second Class Honours); Grace J. V. Ball, Dorothy E. Barber, Violet Fry, Nathan Greenberg, G. L. L. Gurney, T. R. V. Gurney, Gwladys R. Llewelyn, and R. A. Mathews.

Society of Medical Officers of Health

The Fever Hospital Medical Services Group of this society will hold their annual general meeting on Friday, June 29th, at 4 P.M., at the house of the society, 1, Upper Montague-street, London, W.C. Prof. Ulrich Friedemann, of the National Institute for Medical Research, who was formerly director of the infectious diseases department of the Rudolph Virchow Hospital, Berlin, will give a paper on malignant diphtheria with observations on cardiovascular failure and methods of treatment.

Conference on Vitamin Standardisation

In connection with the international conference on the standardisation of vitamins, which met in London last week under the auspices of the Health Committee of the League of Nations, Dr. J. O. Wakelin Barratt, the master, the wardens, and the court of assistants of the Worshipful Society of Apothecaries of London held a reception at their hall in Blackfriars on June 14th. Among those who attended the reception were:—

Dr. E. Mellanby, Medical Research Council; Prof. J. C. Drummond, University College; Prof. H. von Euler (Stockholm); Prof. L. S. Fridericia (Copenhagen); Prof. B. C. P. Jansen (Amsterdam); Prof. P. di Mattei (Pavia); Dr. E. M. Nelson (Washington, U.S.A.); Madame L. Randoin (Paris); Prof. H. Steenbock (Wisconsin, U.S.A.); Prof. A. Szent-Gyorgyi (Szeged); Dr. W. R. Aykroyd (League of Nations, Geneva); Miss Harriette Chick, D.Sc. (Lister Institute of Preventive Medicine); Prof. J. C. G. Ledingham, Director of the Lister Institute; Miss Katharine Coward, D.Sc.; Prof. A. Jung (Bâle); and Dr. C. Lormand (Paris).

On June 13th Dr. W. D. R. Thompson (Inner Temple) and Dr. W. A. M. Stewart (Middle Temple) were called to the Bar.

London Association of Medical Women's Federation

A meeting will be held on Tuesday, June 26th, when Dr. Letitia Fairfield will speak on Eugenic Sterilisation of the Unfit, and Dr. C. P. Blacker will open the discussion. Members are invited to bring guests (men and women).

Hoffman Library for Cancer

Dr. Frederick L. Hoffman, jointly with the Prudential Insurance Company, has presented his library to the Cancer Research Laboratories of the University of Pennsylvania Graduate School of Medicine. The library includes not only a large number of books and reprints and journals on cancer, but also many related works and statistics and mortality data on cancer collected by the donor. Those who wish to deposit books or reprints in the library should address their publications to the Cancer Research Laboratories, University of Pennsylvania Graduate School of Medicine.

Harveian Society of London: the Buckston Browne Dinner

The banquet, offered to the Harveian Society of London annually, and founded by the life president of the Society, Sir Buckston Browne, was held at the Connaught Rooms, London, on Thursday, June 14th, when a large company assembled.

The Greek Minister proposed the health of the Society in fluent and amusing manner. He said that he would be short, and described an episode at a musical party at which he recently was present, when a distinguished composer rendered a composition of his own, which was understood to be a funeral march designed to accompany the transfer of his body from his home to the cemetery. A lady in the audience, finding the composition over-long, remarked, "Dear Maestro, you live too far away from the cemetery." M. Caclamanos said that for this occasion he was living near the cemetery, adding that he could think of only one reason why the toast had been confided to him—namely, that he could read Hippocrates in the original. Yet, he said, he had played once an important medical rôle, for as a young secretary at the Greek legation in Paris he had this singular experience. There was an international sanitary conference in Paris, and the Greek delegate, a distinguished hygienist, having fallen suddenly sick, a peremptory telegram from Athens commanded him to attend the conference as a substitute. "Not only," said his Excellency, "did I represent my Government, but I took part in the discussions, and I signed an important technical convention by which, as far as I can remember, all dreadful diseases were to be expelled from European shores." Proceeding in serious vein, M. Caclamanos declared that always universal admiration would be felt for Harvey; while ancient Greeks had said that there is nothing new under the skies, and while they had discovered so much of the fundamentals of science, they had left it to an Englishman to explain the problem of the circulation of the blood. A part of the story had been guessed by them, and scientists of other nationalities had thrown out views, but, said His Excellency, it was left to your great citizen to really describe the circulation of the blood and to prove his thesis beyond dispute. M. Caclamanos closed by congratulating the Society on entering the second century of its existence.

Sir Buckston Browne, replying to the toast, said that the Society was in a prosperous position, having a membership of 400, while the institution of a prize essay had led to excellent discussions, proving the value of societies, such as the Harveian, in promoting professional intercourse. This, he said, was a truth which the great Harvey himself would have well understood. Darwin, he continued, had changed the whole position of medicine when he showed that the human body was the finest product of evolution, and it was the great duty of the medical profession to keep the machinery of that body in working order.

Mr. Dickson Wright proposed the health of the visitors, to which Dr. F. M. R. Walshe, the Harveian Lecturer, and Mr. F. R. Mortimer, Master of the Worshipful Company of Barbers, responded.

British Homœopathic Society

Dr. O. Leeser, of Stuttgart, is giving an address on "Constitution and Constitutional Treatment" at the London Homœopathic Hospital, Queen-square, W.C., on Thursday, June 28th, at 5.30 P.M., to which all medical men and women are invited.

International Congress of Radiology

The fourth international congress of radiology will be held at Zurich and St. Moritz from July 24th to 31st. Members who wish to avail themselves of any of the special itineraries and inclusive fares arranged are asked to inform the general secretary of the British Institute of Radiology, 32, Welbeck-street, London, W.1, without delay.

Women Smokers in Hospital

Liverpool city council has referred back a recommendation of the hospitals committee that smoking by women patients should not be allowed. It was stated that some women who had been smoking surreptitiously put their cigarettes under the bedclothes when the nurses appeared, with obvious danger of fire. The reference back was carried by a large majority.

Birmingham Skin Hospital

Colonel W. F. Wyley, Provincial Grand Master of Warwickshire, recently laid with masonic rites the foundation-stone of the new in-patient department of the Birmingham and Midland Skin Hospital in George-road, Edgbaston. Last year 80,000 out-patients and over 400 in-patients were treated. When the new building is completed, the old building in John Bright-street will be devoted entirely to out-patient work.

Sanitation at the Hull Airport

The Town Clerk of Hull recently addressed a letter to the Minister of Health asking for extension of the competence of the borough sanitary authority, so as to carry out medical inspection of aliens arriving at the local aerodrome. In his reply, the Minister of Health, while pointing out that the airport lies outside the jurisdiction of the city council and of the port sanitary authority, agrees to extend the present warrants of the medical officers for that purpose.

British Health Resorts Association

A conference is being held by this association at Cromer and Sheringham next week-end, from June 29th to July 1st, with two main subjects for consideration. Dr. R. A. Young, physician to the Middlesex and Brompton Hospitals, will open a discussion on the seaside resort in the treatment of respiratory diseases, other speakers on this theme being Dr. L. S. Burrell and Dr. A. J. Morland. A discussion on the climatic and allied factors in the incidence of disease and its treatment on the East Anglian coast will be opened by Dr. R. Fortescue Fox, followed by Dr. F. W. Burton-Fanning, Dr. Wilfred Pearson, and Mr. L. C. S. Bonacina, of the Royal Meteorological Society. The secretary of the association may be addressed at 199, Piccadilly, London, W.1.

Rockefeller Medical Fellowships

The Medical Research Council announce that, on behalf of the Rockefeller Foundation, they have made the following awards of travelling fellowships for the academic year 1934–35. Ian Aird, M.B. Edin., department of anatomy, University of Edinburgh; Ian Alfred Anderson, B.Sc., M.B. Aberd., Royal Infirmary, Aberdeen; Eric Gordon Oastler, M.B. Glasg., St. Mungo's College, Glasgow; Wilfred Harding Owles, B.Sc., B.M. Oxon., Queen's Hospital, Birmingham; Harold Leeming Sheehan, M.Sc., M.D. Manch., department of pathology, University of Manchester; and Clifford Wilson, B.M. Oxon., department of pathology, London Hospital. These fellowships are awarded to graduates who have had some training in research work either in the primary sciences of medicine, or in clinical medicine or surgery, and who are likely to profit by a period of work abroad before taking up positions for higher teaching or research in the British Isles. All the fellows appointed this year will work at centres in the United States.

Epsom College

The following Foundationers were elected by the conjoint committee on June 13th: Daniel L. C. Thomas, William Farquhar Graham, John Urquhart Crichton, Colin C. R. Walker, Francis McLean Mathewson, Ian Young, and Donald M. Simmins. Denis M. W. Hartley was also elected as a special Foundationer. The following were elected Pensioners: Mrs. Grace Elizabeth Hutchinson and Mrs. Alice M. A. Cockell.

Brentwood District Hospital

This new hospital was opened last week by Princess Helena Victoria. A site of 18 acres was given by Mr. Percy Bayman, and the building has cost £40,000, the whole of which has been subscribed. It was designed to provide 100 beds; at present there are 40.

East Suffolk and Ipswich Hospital

Lord Moynihan last week opened a new block of private wards containing 30 single-bed wards and 4 six- or four-bed wards. In his speech Lord Moynihan emphasised the fact that the income of the voluntary hospitals of the country now exceeded their expenditure.

Putney Hospital for Incurables

At the festival dinner last week of the Royal Hospital and Home for Incurables, Putney, it was stated that the institution has 250 inmates, and a pension list of 600. The cost of maintenance and pensions is £40,000 per annum. Owing to an abnormal number of bequests the year 1933 was "extraordinarily good."

Royal Salop Infirmary

The annual report states that last year there were 2080 in-patients, a small increase, and 9257 out-patients, an increase of nearly 800. The facilities for treating surgical cases are rapidly becoming inadequate, and the one general theatre has been in use for practically a 24-hour day throughout the year.

Lady Tata Memorial Scholarships

The trustees of the Lady Tata Memorial Trust announce that on the recommendation of the scientific advisory committee, they have made their awards of scholarships for the year 1934–35. These scholarships were open to graduates of any nationality for research work in diseases of the blood, with special reference to leukæmia. The recipients are: Dr. W. Büngeler (Danzig), Dr. L. Doljanski (Copenhagen), Dr. M. C. G. Israels (Manchester), Dr. C. Oberling (Paris), Dr. J. Engelbreth-Holm (Copenhagen), Dr. M. O. K. Jorgensen (Aarhus, Jutland, Denmark), Dr. R. Meier (Leipzig), and Dr. Lucy Wills (London).

Pay-Beds at London Hospital

At the quarterly court of the governors of the London Hospital last week the house committee reported that King Edward's Fund had approved of the proposal to establish pay-beds for patients of moderate means. The scheme involves the adaptation of the three top floors of the block in Newark-street, but by putting into use rooms elsewhere, hitherto unoccupied, and by various readjustments the number of beds available for the poor will not be diminished to any appreciable extent. The scheme will provide 44 beds and cubicles; the charges will be moderate, and as far as possible inclusive, and the specialists' fees will be reduced to meet the patient's circumstances. The cost of adaptation and of building an operating theatre will be about £10,000, and since the general hospital funds cannot be used for the purpose an appeal for this sum is to be issued.

A REPUDIATION.—Dr. A. J. Byrne asks us to say that he gave no consent to the publication of a recent paragraph in the *Guardian*, communicated by a patient and expressing her appreciation of his treatment. He is advised by the Medical Defence Union to ask publicity for this repudiation.

PARLIAMENTARY INTELLIGENCE

NOTES ON CURRENT TOPICS

Hospitals and Treatment of Road Accidents

WHEN the Road Traffic Bill was further considered by a Standing Committee of the House of Commons on June 14th. Mr. STOREY moved a new clause providing for the payment for hospital treatment of road accidents other than emergency treatment up to a maximum of £50 for in-patients and £5 for out-patients, irrespective of the question of negligence.

A REASONED PLEA FOR COMPENSATION

It was, said Mr. Storey, the logical conclusion of the emergency treatment clause already passed. If it was right to pay for emergency treatment given by hospitals, then it was even more right that treatment which might cost the hospitals tens and even hundreds of pounds should be met in this way.

It might, he said, be objected that this clause and the emergency treatment clause attributed the whole fault of accidents to the motorists. He submitted that they did nothing of the sort. Accidents were not due to the fault of motorists but to the fact that there were motors on the roads. This clause provided that the cost of treatment due to the fact of motors should be borne not by the hospital or the patient, who were not responsible for the change in conditions, but by the motorist who was responsible for the change. It did, however, give to the motorist, where it could be proved that some other party was directly responsible for the accident, the right of recovery. The compulsory insurance clauses of the Road Traffic Acts provided a means by which the cost of such treatment could be met without any appreciable burden on individual motorists; they provided a means by which payment for that treatment could be distributed among the hospitals rendering the treatment and they might also provide the means by which these matters could be handled by those who were most experienced in dealing with them.

Road accidents cost the hospitals some £180,000 per annum. With the limit of £50 proposed in this clause the amount recovered would not amount to anything like that sum, but even if the whole cost were recovered, it would work out at only 1s. 7d. per head to the motorists. That was a very small contribution to ask from motorists to the hospitals. He did not believe after a good deal of experience in collecting money for hospitals that if these provisions were passed hospitals would lose a penny piece in subscriptions.

Not only among the hospitals, but among the subscribers, particularly the workmen subscribers, there was at present a real feeling of hardship. They said that the money raised by them to treat the sick in their district was being used to treat road accident cases, the cost of which they held should be met from other sources. Under the 1933 Act something was done for the hospitals, but it was very little. Representatives of the hospitals had put forward their solution, and if the Minister would not accept it, would he suggest an alternative?

Sir FRANCIS FREMANTLE said what most of his friends were keen on was to get this hardship to the voluntary hospitals put right. There was a strong feeling on this subject throughout the country which had resulted in this clause. He hoped that the Minister of Transport would show that if he had not an alternative ready to hand he was prepared to help representatives of the hospitals to find a solution.

Sir ERNEST GRAHAM-LITTLE said the request for this clause came from all the authoritative bodies which dealt with hospitals. What the hospitals undertook was not merely emergency treatment. It was the specially difficult and important cases that went to the hospitals which entailed in the great majority of cases a long period of treatment.

THE MINISTER'S REPLY

Mr. OLIVER STANLEY objected to putting the motor owner in a selected position as almost the only class in the country to be responsible for an act which was not in any way negligent and which indeed might be caused by the negligence of someone else. He wondered whether the clause was really in the best interests of the hospitals themselves. He dismissed at once as, taking the hospitals as a whole, grossly unfair the argument that motors had created this new situation, that it was the coming of the motor which had put this responsibility upon hospitals, and therefore it must be the motor owner who paid. They could not take that sort of debit side of the invention of the internal combustion engine without looking at the credit side also. He felt that to the ordinary subscribers to hospitals, such as himself, this meant the end of the voluntary hospital system as he had always understood it. It was now proposed that they should adopt a new principle and that they should be taxed—for that was what it amounted to—to provide for the care of certain unfortunate injured people if their injury arose in a special way. He thought that such an idea would lead many subscribers to hospitals in the future to limit their subscriptions to hospitals to whatever return those institutions might give to them. Had there ever been an attempt by the hospitals as a whole to try with the help of motoring organisations and motorists generally to set up a central fund from which relief could be given? [Mr. TURTON said that had been done in Yorkshire.] He believed that not only would the immediate result of such an appeal be better from the point of view of the hospitals, but that taking the long view their future would be much more assured.

Mr. STOREY said that the alternative offered, a corporate appeal to motorists, had already been tried and had not proved particularly successful. He had no reason to think that a general appeal all over the country would be any more successful. He appealed to the Minister to try to get the motorists, insurance companies, and the hospitals together.

Mr. STANLEY said he gladly responded to this suggestion.

The clause was negatived by 21 votes to 6, and this concluded the committee stage of the Bill.

HOUSE OF COMMONS

WEDNESDAY, JUNE 13TH

Naval Cadets and Defective Vision

Mr. SAVERY asked the First Lord of the Admiralty the number of cadets who, during the last three years, had been compelled to withdraw from Dartmouth Naval College on account of defective vision.—Sir BOLTON EYRES-MONSELL replied: During the last three years seven cadets have been required to withdraw from the Royal Naval College, Dartmouth, on account of defects of vision. Of these, one had been offered a transfer to the engineering branch and five to the accountant branch, but these transfers had been declined. The seventh was unfit for service in any branch.

Blackheath Hospitals and Electric Light Failure

Mr. THORNE asked the Minister of Transport whether he had received a report from his inspectors relative to the inconvenience caused to the hospitals in the Blackheath area when the electric light supply failed for a number of hours on Sunday night; if he was aware that the hospitals had no electric light supply for three hours; and if he could state the cause of the breakdown.—Mr. STANLEY replied: I am informed that the breakdown was due to a fault on an old distributor which had been in service for many years; that the principal inconvenience was suffered by the Herbert Hospital; and that the hospital has now been connected to a new ring main which the company were laying to provide additional security of supply and which was on the point of completion when the breakdown occurred.

Cheap Milk-supplies in Glasgow

Mr. KIRKWOOD asked the Secretary of State for Scotland what contract was signed by the Glasgow milk retailers

who had been refused supplies by the Milk Board because they sold standard milk to working-class consumers at cheap rates; and, if no contracts were signed by these retailers, why were they prohibited from selling milk at the lowest possible price to consumers.—Sir GODFREY COLLINS replied: Under the contract entered into between distributors and the Scottish Milk Marketing Board it is provided that all buyers of milk from or through the agency of the Board shall undertake to observe the prices fixed by the Board and to take subpurchasers bound in a similar obligation. The retailers referred to are subpurchasers in terms of the contract.

Malaria in Bechuanaland

Mr. LUNN asked the Secretary of State for Dominion Affairs whether he could give any information on the outbreak of malaria in Bechuanaland; whether he was aware that at Ghanzi there had been 250 deaths following a period of starvation; and what measures His Majesty's Government was taking.—Mr. THOMAS replied: I regret to say that there has been an outbreak of malaria in certain districts of the Bechuanaland Protectorate. I have not yet received any detailed reports from the High Commissioner for South Africa as to mortality, but I have no doubt that these will be forthcoming as soon as the information is available. Prompt measures have been taken by the local administration to deal with the outbreak by sending medical officers and the necessary supplies of quinine to the districts affected. I may add that provision was made last year and has again been made this year for the relief of distress unfortunately occasioned in the Protectorate by the late disastrous drought in South Africa.

Butter and Margarine in Pensions Hospitals

Mr. HAMER RUSSELL asked the Minister of Pensions if he was aware that margarine was issued normally to all patients in the Ministry of Pensions hospitals; and if, having regard to the surplus milk in the country, he would issue instructions for butter to be used in place of margarine.—Major TRYON replied: Butter is always supplied to patients in Ministry hospitals if medically recommended, but otherwise the practice in Ministry hospitals has in the past followed that of the majority of similar institutions. But I am going into this matter with a view to making a change.

Mr. MACQUISTEN: Is the Minister aware that certain qualities of margarine have the same qualities as cod-liver oil and are much better for patients than ordinary butter?

No answer was given.

THURSDAY, JUNE 14TH

Silicosis

Mr. JOHN asked the Home Secretary whether he had received a reply from the Mining Association on the subject of silicosis; and whether he was now in a position to review the arrangements in force under the present scheme.—Sir JOHN GILMOUR replied: As the result of the conferences which have recently taken place, I am expecting to receive next week from the Mining Association certain proposals which they desire to submit with a view to remedying the position. I should then be able to review the existing arrangements, and the hon. Member may be assured that every effort will be made to reach an early decision.

Imported Milk Products and Public Health

Lieut.-Colonel WINDSOR-CLIVE asked the Minister of Health what precautions he was taking to ensure that all dairy products imported into this country were produced under the same sanitary conditions as were imposed on similar products produced here.—Sir HILTON YOUNG replied: Imported milk is subject to special bacteriological conditions which do not apply to home-produced milk. In addition all imported articles of food are subject to examination at the port of entry to ensure that they are not diseased or otherwise unfit for human consumption.

Nursery Schools

Viscountess ASTOR asked the Parliamentary Secretary to the Board of Education what local education authorities submitted plans for new nursery schools during 1931; and which of these were refused by the Board of Education on account of the economy cuts.—Mr. HERWALD RAMSBOTHAM replied: Eleven local education authorities submitted proposals for new nursery schools during 1931. In the case of seven of these approval of the proposal was withheld on account of the financial circumstances, but one has since been allowed to proceed.

Viscountess ASTOR: Would the hon. gentleman promise the House that now the financial circumstances are better he will give the local authorities permission to establish these schools?

Mr. RAMSBOTHAM: That must depend on the urgency of the circumstances.

Underground Rooms in London

Major NATHAN asked the Minister of Health whether he had now obtained any particulars from the London County Council as to the number of underground rooms habitually used as sleeping places in the administrative County of London that were unfit for human habitation within the meaning of Section 18 of the Housing Act, 1925.—Sir HILTON YOUNG replied: Yes, sir. I understand that the returns being obtained by the London County Council are still incomplete, but those received up to date show 7186 rooms within the description used by the hon. Member.

Water-supplies in Scotland

Lord SCONE asked the Secretary of State for Scotland the present position in regard to the shortage of water in Scotland in general and in the counties of Perth and Dumfries in particular.—Mr. SKELTON (Under-Secretary of State for Scotland) replied: No reports of the existence of any special emergency arising from a shortage of water due to drought have been received from any local authority. The information of the Department of Health is that, thanks to the rains this spring, the areas that suffered a shortage in the spring and autumn of last year are at the present moment adequately supplied. It is known, however, that supplies in certain localities are under ordinary conditions inadequate and the department are at present receiving from local authorities applications for grant under the Rural Water Supplies Act, 1934, to assist in providing supplies or in improving existing supplies.

MONDAY, JUNE 18TH

Veterinary Inspection of Cattle

Mr. THOMAS WILLIAMS asked the Minister of Agriculture how many qualified veterinary surgeons were employed by his department exclusively for inspecting cattle, and farm sheds and buildings, and other duties involved in the Tuberculosis Order, 1925; and how many inspections were carried out during the last year for which figures were available.—Mr. ELLIOT replied: There are no qualified veterinary surgeons employed by the Ministry exclusively on duties involved under the Tuberculosis Order, 1925, which, in the main, is administered by the local authorities and their veterinary staffs. Imported cattle are examined in the landing place by the Ministry's veterinary staff for tuberculosis as well as for other scheduled contagious diseases, and on this work 11 veterinary inspectors are employed full time.

Gas Attack Lectures in Scotland

Mr. KIRKWOOD asked the Secretary of State for Scotland under what authority Army officers had been giving private lectures in Maryhill Barracks, Glasgow, to members of the Red Cross and Voluntary Aid Detachment on how to deal with victims of gas attacks from the air; if similar lectures were being given in other parts of Scotland; and, if so, were these part of an official scheme to prepare for war in the air.—Mr. DUFF COOPER (Financial Secretary to the War Office) replied: Training in defence measures against gas attacks, whether from the air or otherwise, is part of the normal training of the Army. The Voluntary Aid Detachments provided by the British Red Cross Society undertake to assist the medical services of the Army should they be required in time of emergency, and measures of protection in gas warfare form part of the training given to these detachments. Army officers are accordingly allowed to assist this training by giving lectures.

Safety Glass in Taxi-cabs

Sir ASSHETON POWNALL asked the Home Secretary if he would make the use of safety glass obligatory for all taximeter-cabs licensed in future.—Sir J. GILMOUR replied:

The requirement as to the fitting of safety glass is the same for taxicabs as for other motor vehicles—namely, that vehicles registered after Jan. 1st, 1932, must have safety glass fitted to windscreens or windows facing to the front on the outside, and that vehicles registered before that date must be so fitted before Jan. 1st, 1937. It is not proposed at the moment to make any additional requirements for cabs. Most of the new cabs presented for licensing in London are, however, fitted with safety glass throughout.

TUESDAY, JUNE 19TH

Gas Detectors in Mines

Mr. TOM SMITH asked the Secretary for Mines if he could make a statement with regard to the suggested regulation for the compulsory use of gas detectors underground.—Mr. E. BROWN replied: It is an essential condition of effective action in this matter that the workmen individually and through their organisations shall coöperate willingly and actively to give effect to any regulations that may be made. Otherwise the regulations would be ineffective. The reasons why this is so were fully stated in the unanimous report made some years ago by a representative committee—the Miners' Lamp Committee—and they are reasons which hold good to-day. In these circumstances it is of the first importance that I should, if possible, find a basis of action by agreement with the workers' representatives, and I propose to invite them to a further discussion of the objections they now feel to the proposals put forward by me.

Collections for Charities

Mr. OSWALD LEWIS asked the Home Secretary if he had yet come to a decision as to whether there was any action that he could usefully take for the better control of house-to-house collections and collections in such places as shop arcades and railway stations for charitable purposes in the Metropolitan police district; and, in particular, whether he would make it obligatory for all persons taking part in such collections to have a permit from the police as recommended int the Report of the Advisory Committee on Street Collections for 1933.—Sir J. GILMOUR replied: Since my hon. friend asked me a question on the same subject in April, I have given the matter my careful consideration. As he is probably aware, the Departmental Committee on the Supervision of Charities, which reported in March, 1927, recommended, among other things, that a system of licensing for door-to-door collections should be introduced, and this proposal was included in the Collecting Charities (Regulation) Bill which was introduced by the Government in 1929. This particular proposal, however, met with great opposition and the Bill was not proceeded with. In the absence of any reason to suppose that there has been a material change of feeling, I do not see my way to introduce fresh legislation for the purpose, and in any case there would be no opportunity for legislation this session.

Vacancies

For further information refer to the advertisement columns

Aberdeen University.—Lecturer in Morbid Anatomy. £400.
Accrington Victoria Hospital.—H.S. £150.
Birmingham Children's Hospital.—Res. M.O. £175.
Birmingham City.—P.H. Dept., Sen. Asst. M.O. for Tuberculosis Section. £750.
Birmingham City Education Committee.—Temporary Asst. School M.O. At rate of £500.
Bolton Royal Infirmary.—H.P. £200.
Brentwood, Essex, Highwood Hospital.—H.P. At rate of £80.
Bristol Eye Hospital.—Asst. Res. H.S. At rate of £100.
Cardiff, University College of South Wales and Monmouthshire.—Asst. Lecturer in Anatomy. £400. Asst. Lecturer in Physiology. £400. Asst. Lecturer in Histology. £300.
Central London Ophthalmic Hospital, Judd-street, W.C.—Sen. and Jun. H.S.'s. £120 and £100 respectively.
Central London Throat, Nose, and Ear Hospital, Gray's Inn-road, W.C.—Hon. Assts. for Out-patients' Dept.
Chesterfield and North Derbyshire Royal Hospital.—H.S. At rate of £150.
Connaught Hospital, Walthamstow, E.—H.P. At rate of £100.
Dagenham Urban District Council.—M.O.H. £900.
Dublin, Ministry of Pensions Hospital, Leopardstown Park.—Asst. M.O. At rate of £285.
Durham County Hospital.—Two H.S.'s. Each £150.
East Ham Memorial Hospital, Shrewsbury-road, E.—Hon. Ophth. Surgeon.
Exeter, Royal Devon and Exeter Hospital.—H.S., Ear, Nose and Throat Dept. At rate of £150.
Folkestone Royal Victoria Hospital.—Sen. and Jun. Res. M.O.'s. At rate of £150 and £120 respectively.
Gloucestershire Royal Infirmary, &c.—H.P. and H.S. Each at rate of £150.
Guildford, Royal Surrey County Hospital.—H.S. £150.
Hospital for Consumption and Diseases of the Chest, Brompton, S.W.—H.P. At rate of £50.
Hospital for Sick Children, Great Ormond-street, W.C.—H.S. At rate of £100.
Huddersfield Royal Infirmary.—H.S. At rate of £150.
Hull Royal Infirmary.—Third H.S. At rate of £150. Hon. Radiologist. Also Cas. O. At rate of £150.
Ilford, King George Hospital.—Cas. O. and H.S. At rate of £130 and £100 respectively.
Indian Medical Service.—Commissions.
King's College Hospital, Denmark Hill, S.E.—Hon. Radiologist.
Lincoln County Hospital.—Jun. H.S. At rate of £150.
Liverpool, Smithdown-road Hospital.—Res. Asst. M.O. £200.
London Lock Hospital, 91, Dean-street, W.—Surg. Reg. £100.
London (R.F.H.) School of Medicine for Women, Hunter-street, W.C.—A. M. Bird Post-grad. Scholarship. £200.
London University.—Examinerships.
Maidstone, West Kent General Hospital.—H.P. £150.
Manchester Hospital for Consumption and Diseases of the Throat and Chest.—Res. M.O. for St. Anne's Home. £200.
Manchester Northern Hospital for Women and Children, Park-place.—Jun. H.S. £100.
Manchester Royal Children's Hospital.—Res. M.O. At rate of £125.
Manchester Royal Eye Hospital.—Jun. H.S. £120.
Metropolitan Hospital, Kingsland-road, E.—Cas. O. At rate of £100.
Middlesex County Council.—Tuberculosis M.O. £750.
Miller General Hospital, Greenwich-road, S.E.—Cas. O. At rate of £150.
National Temperance Hospital, Hampstead, N.W.—Hon. Asst. Surgeon.
Newcastle-upon-Tyne Hospital for Sick Children.—Res. Surg. O. £250.
New Zealand, Wellington Hospital Board.—Superintendent. £1100. Also Res. Surg. O. £400
Norwich, Norfolk and Norwich Hospital.—H.S. to Spec. Depts. £120.
Nottingham Children's Hospital.—Res. H.S. At rate of £150.
Rochester, St. Bartholomew's Hospital.—H.S. At rate of £175.
Royal College of Surgeons of England.—Pathological Curator of the Museum.
Royal London Ophthalmic Hospital, City-road, E.C.—Refraction Asst. to L.C.C. School Dept. £160.
St. Alfege's Hospital, Vanbrugh Hill, Greenwich, S.E.—Asst. M.O. £350.
St. Bartholomew's Hospital, E.C.—Chief Asst. to X Ray Diagnostic Dept.
St. Charles' Hospital, Ladbroke-grove, W.—Asst. M.O. £250.
Salisbury General Infirmary.—H.S. and H.P. Cas. O. Each at rate of £125.
Scarborough Hospital and Dispensary.—H.S. At rate of £175.
Sheffield Children's Hospital.—H.S. Also H.P. Each at rate of £100.
Sheffield Royal Infirmary.—M.O. to Assist Medical Director at Sheffield Radium Centre.
Singapore, Straits Settlement, King Edward VII. College of Medicine.—Prof. of Surgery. £1190.
Southampton, Free Eye Hospital.—Locum Tenens Ophth. S.H. Six gns. per week.
Southampton, Royal South Hants and Southampton Hospital.—Sen. H.S. £200.
Southend Municipal Hospital, Rochford.—Asst. M.O. £275.
Southend-on-Sea General Hospital.—H.S. At rate of £100.
Stockport Infirmary.—H.S. £150.
Surrey County Mental Hospital Service.—Jun. Asst. M.O. £350.
Tunbridge Wells, New Kent and Sussex Hospital.—Res. Surg. O. £250. Sen. H.S. £175. Second H.S. £150. Also Jun. H.S. £125.
Willesden Corporation, Health Dept.—Dental Surgeon. £600.
Wolverhampton Royal Hospital.—H.P. At rate of £125. Also Asst. Res. M.O. and H.S. to Spec. Depts. Each at rate of £100.
Woolwich and District War Memorial Hospital, Shooter's Hill, S.E.—H.P. and H.S. Each at rate of £100.

The Chief Inspector of Factories announces a vacant appointment for a Certifying Factory Surgeon at East Kilbride, Lanark.

Appointments

ANDERSON, A. B., B.Sc. Adelaide, Ph.D. Camb., M.R.C.S. Eng., has been appointed Clinical Biochemist at the Glasgow Royal Infirmary, and Lecturer in Pathological Biochemistry to the University of Glasgow.

ARTHURE, H. J. E., M.B., B.S. Lond., House Surgeon at the Chelsea Hospital for Women.

GRAHAM BRYCE, A., M.D. Manch., F.R.C.S. Eng., Honorary Assistant Surgeon to the Manchester Royal Infirmary.

MARTIN, J. PURDON, M.D., F.R.C.P., Honorary Assistant Physician to the Royal London Ophthalmic Hospital (Moorfields Eye Hospital).

MOIR, P. J., M.C., M.B. Glasg., F.R.C.S. Eng., Hon. Surgeon to the General Infirmary, Leeds.

O'REILLY, J. N., B.M. Oxon., M.R.C.P. Lond., Hon. Physician to the Royal Waterloo Hospital for Children and Women.

SMITH, R. R., L.R.C.P. Lond., M.R.C.S., Medical Referee under the Workmen's Compensation Act for Birkenhead, &c. (Circuit 7).

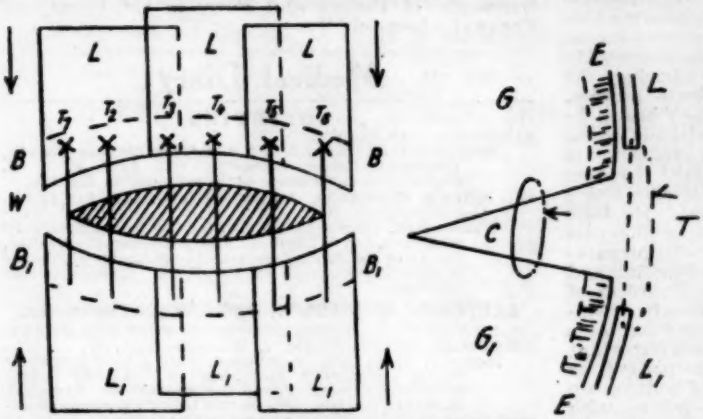
TURNER, Beatrice, M.B. Lond., F.R.C.S. Edin., Junior Obstetric Surgeon to the Elizabeth Garrett Anderson Hospital.

NOTES, COMMENTS, AND ABSTRACTS

CUTANEOUS WOUNDS JOINED WITHOUT SUTURE

To obviate the disadvantage, in joining the edges of a wound, of making a series of new puncture wounds for the passage of the threads, Dr. EJNAR DUJARDIN, of Copenhagen, proposes the following method, which he has practised successfully.

At a distance of about 1 cm. from the edges of the wound (W) slips of adhesive plaster (L–L_1) are attached to the skin, their borders being shaped according to the shape of the wound. A narrow border (B–B_1) of the plaster strips is left unattached to the skin, and through these free borders silk threads (T_1–T_6) are sewn from slip (L) to slip (L_1). The borders are



Diagrams illustrating the closure of wounds without suture by Dr. Dujardin's method.

then stuck together (B to B_1) and on tightening and knotting the threads the wound edges are carefully approximated. Care must be taken that the adhesive plaster slips are placed in such a way that the pull is longitudinal and not transverse. If the wound is particularly deep the tension may be reduced by applying through the subcutaneous tissue (G–G_1) ring-shaped countersunk catgut sutures (C) which do not touch the epidermis (E) and which are tightened and knotted before sticking the adhesive plaster slips together. Dr. Dujardin says that this method, apart from the good result from a cosmetic point of view, has the advantage of being painless.

LEPERS IN MALAYA

EVERY leper in Malaya is required by law to be segregated, and this law is strictly enforced. With the object of providing model conditions of housing, control, and treatment, the Government of the Federated Malay States opened in 1930 a free leper settlement at Sungei Buloh, 12 miles north-east of Kuala Lumpur, an account[1] of which has been prepared for publication by Dr. G. A. Ryrie, the medical superintendent. The settlement, which covers 57 acres, has accommodation for about 1000 lepers, who are housed in 13 large wards and some 150 separate dwelling houses. There is a school for 80 children, hospital wards are provided for advanced cases and for the sick, and out-patient buildings for examination and treatment of ambulatory inmates. All patients, except a few patently beyond aid, receive regular treatment, and they are encouraged to look forward to ultimate discharge, which is permitted when they have been clinically and bacteriologically free from symptoms for six months. Dietetic, biochemical, and serological experiments, and investigation into the action of new drugs, are carried out with the aid of two volunteer groups kept under ward supervision.

An interesting feature of the settlement is the endeavour to control the lepers without any coercion, physical or mental. Dr. Ryrie says: "The settlement is not on an island; there is no wall—only a demarcating wire fence—and any of these legally detained patients could escape if they wanted to. There are no outside guards or police, and the settlement is only a mile from the main road to the capital. In spite of this, very few ever attempt to escape, and most of these return voluntarily in a short time." This is effected by giving the patients responsibility and a share in the management of the institution, by providing them with plenty of suitable occupation and recreation, and by surrounding them with an atmosphere of fairness and naturalness. Four shops managed by the inmates are subject to only two restrictions—that no opium or alcohol is on sale, and that nothing but metal money, which can be easily sterilised, may pass as currency.

Married quarters are supplied in each section. The birth-rate is low, and, as no child is ever born with leprosy, those born in the settlement are protected by being removed at the age of two weeks to the general hospital in Kuala Lumpur, where they are cared for at Government expense. When parents are discharged from the settlement their children are returned to them; others are adopted. The work of the settlement is undoubtedly an advance in international endeavour to secure suitable conditions and adequate treatment for lepers, and when it is realised that the patients are of many different nationalities and at least half a dozen religions, it says much for the methods employed that administrative trouble is avoided and that a courteous and cheerful atmosphere prevails.

[1] The Leper Settlement at Sungei Buloh in the Federated Malay States. Printed for the Government by the Malaya Publishing House Limited, Singapore, 1933.

TRAINED NURSES FOR PATIENTS OF SMALL MEANS

THE chairman of committee of the Nursing Sisters' Institution, 10, Collingham-road, London, S.W.5, calls our attention to the facilities provided by this institution. It was founded by Mrs. Elizabeth Fry, in 1840, for providing fully trained nurses at a reduced fee for those of small means. All members of the staff are fully trained State-registered nurses and are fully competent to undertake the nursing of all acute cases of illness: those sent to maternity patients hold, in addition to their certificate for general training, the certificate of the C.M.B. The fees charged are from £2 12*s.* 6*d.* per week, and a billeting fee of £1 1*s.* to £1 10*s.* is charged for boarding out nurses who cannot be accommodated in the patient's home. Our readers will be glad to have the address of the institution for the benefit of patients unable to afford the full fees for the services of a private nurse. Further particulars may be obtained from the lady superintendent at the institution.

LONDON OUT-PATIENT TIME-TABLE

King Edward's Hospital Fund has brought out a new edition, revised to May, 1934, of a hospital out-patient time-table, setting out the hours at which medical, surgical, and other special cases are dealt with at the voluntary hospitals within the radius of 11 miles from St. Paul's. The time-table should be of assistance not only to the various social agencies,

which often make the actual arrangements for attendance, but especially to the general practitioners who may wish to send their patients for consultations. The information should help to prevent the fruitless waiting which occurs when patients attend out-patient departments at the wrong hour or even on the wrong day. The time-table, which can either be kept folded as an octavo booklet or unfolded in quarto form and inserted in a telephone directory, may be obtained free of charge from Messrs. Geo. Barber and Son, Ltd., Furnival-street, E.C.4.

HEALTH IN PREGNANCY

NOBODY is more avid of good advice than the expectant mother, and nobody receives more of it, verbally from her next-door neighbour, and in print from the daily press. Since teaching from such a reliable source as the head of a unit of obstetric medicine in the University of London enters the lists at the competitive price of only 6d.[1] there is no excuse for not consulting him in preference to daily or weekly soothsayers. At the best, however, advising the expectant mother is a somewhat delicate process. The interest she is bound to take in herself has to be guided without undue foreboding and without undue heartiness. She has to be assured that pregnancy is a natural condition and to realise that it is at the same time a period of strain. Prof. Browne achieves a nice balance. His advice is brief and practical. He deals in short paragraphs with the signs of pregnancy, its common disorders and their treatment, with preparations for confinement and with the breast-feeding and care of the baby. The chapter on the disorders of pregnancy is particularly useful, as it clearly distinguishes the normal from the abnormal and indicates when the doctor should be called in. This is important from the point of view of welfare of the patient, as when a woman has formed the habit of putting up with a lot it is quite possible for her to put up with too much. Dr. Browne is perhaps a little gloomy about constipation, which bulks large on the modern horizon in ordinary life and in pregnancy overhangs the whole sky. In all other respects this is an excellent little book.

THE DANGER OF POLISHED FLOORS

THE question of suitable flooring material for the wards of hospitals recently exercised the minds of an important hospital congress,[2] and was left largely in the air. In the meantime polished wood blocks continue to claim their victims. A week or two ago Mr. E. W. Norris, coroner for Huddersfield, held an inquest upon a man of 75, a patient in St. Luke's Hospital, who had a fall in the ward and fractured a wrist when he got out of bed in the temporary absence of the nurse. Death was due to myocarditis, brought on by chronic bronchitis, accelerated by the injury to the wrist, and the coroner said he could never understand why floors in hospitals where there were old and infirm patients should be highly polished. He understood that the patients at the hospital were given slippers with leather soles, but these were a poor protection against slipping on a polished surface. Surely, he added, if the floors were well scrubbed the same clean appearance would be obtained as by polishing.

THE HOSPITAL AND THE "DOGS"

IN the *Harrap Mercury* for June, issued gratis by George Harrap and Co., Ltd., the well-known publishers, is the following paragraph:

"The crying need for an up-to-date English-French dictionary was forcibly brought home to me recently. In a very well-known dictionary, widely used in schools, I found under the French word *hôpital* the following English equivalents: 'hospital, almshouse, *dogs*.' Dogs? I racked my brain—and the astonishing solution suddenly dawned on me. The English equivalent of the French expression *aller à l'hôpital* is 'to go to the dogs': the compiler of the dictionary had arrived at the momentous conclusion '*hôpital*=dogs' by the simple process of cancellation!"

We should add that Spiers in his dictionary stated that "to go to the dogs" is "*prendre le chemin de l'hôpital*," and Larousse states that "*réduire à l'hôpital*" means "*ruiner*."

[1] Advice to the Expectant Mother on the Care of her Health. Third edition. By F. J. Browne, M.D., D.Sc., Professor of Obstetric Medicine in the University of London. Edinburgh: E. and S. Livingstone. 1934. Pp. 48. 6d.

[2] See THE LANCET, 1933, ii., 392.

SMALL-POX—THEN AND NOW.—Dr. R. L. Wason writes: "In the ancient church of St. Pancras, Exeter, is a tablet to the memory of a Cornish girl who died in the year 1711 'of the smallpoxe, a distemper so remarkably fatall to her family that no fewer than foure of her sisters perished of it during the months of February and March 1716 in the burroughs of Penryn and Fowy in the County of Cornwall aforesaid.'"

Medical Diary

SOCIETIES

EUGENICS SOCIETY.
TUESDAY, June 26th.—5.15 P.M. (at the Linnean Society, Burlington House, Piccadilly, W.), Prof. F. A. E. Crew: The Inheritance of Educability in the Rat.

ST. JOHN'S HOSPITAL DERMATOLOGICAL SOCIETY, 49, Leicester-square, W.C.
WEDNESDAY, June 27th.—5 P.M. (at the Royal Society of Medicine), Dr. William A. Pusey (Chicago): Disease, Gadfly of the Mind, Especially the Stimulus of Disease in the Development of the Mind. (Prosser White Oration.)

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

FELLOWSHIP OF MEDICINE AND POST-GRADUATE MEDICAL ASSOCIATION, 1, Wimpole-street, W.
MONDAY, June 25th, to SUNDAY, July 1st.—PRINCE OF WALES'S HOSPITAL, Tottenham, N. All-day Course in Medicine, Surgery, and the Specialties.—NATIONAL HOSPITAL FOR DISEASES OF THE HEART, Westmoreland-street, W. All-day Course in Cardiology. (Open to non-members.)—CHILDREN'S CLINIC, 48, Cosway-street, Marylebone-road, N.W. Course in Children's Diseases.—METROPOLITAN HOSPITAL, Kingsland-road, E. Week-end Course in Medicine and Surgery. All-day, Sat. and Sun.—MEDICAL SOCIETY OF LONDON, 11, Chandos-street, Cavendish-square, W. Lecture-demonstration by Dr. A. E. Clark-Kennedy on Nephritis, Tues., at 2.30 P.M.—PANEL OF TEACHERS. Individual Clinics in various branches of medicine and surgery are available daily by arrangement with the Fellowship of Medicine. Courses of instruction, clinics, &c., arranged by the Fellowship of Medicine are open only to Members and Associates, unless otherwise stated.

HOSPITAL FOR EPILEPSY AND PARALYSIS, Maida Vale, W.
THURSDAY, June 28th.—3 P.M., Dr. F. L. Golla will demonstrate.

SOUTH-WEST LONDON POST-GRADUATE ASSOCIATION, St. James' Hospital, Ouseley-road, Balham.
WEDNESDAY, June 27th.—4 P.M. Mr. O. L. Addison: Some Urinary Problems in Childhood (lantern lecture).

UNIVERSITY OF BIRMINGHAM.
TUESDAY, June 26th.—3.30 to 5 P.M. (at the General Hospital), Dr. Ernest Bulmer: Some Diseases of Bone.
FRIDAY.—3.30 to 5 P.M. (at the Queen's Hospital), Dr. A. V. Neale: Demonstration of Medical Cases.

LEEDS GENERAL INFIRMARY.
TUESDAY, June 26th.—3.30 P.M., Dr. Bibby: Demonstration of Venereal Cases.

Births, Marriages, and Deaths

BIRTHS

MCNEILL LOVE.—On June 12th, at Stormont-road, Highgate, the wife of R. J. McNeill Love, F.R.C.S., of a son.

DEATHS

FOSTER.—On June 16th, at Fincham, Michael George Foster, O.B.E., F.R.C.P., only son of the late Sir Michael Foster, K.C.B., F.R.S., aged 69.

JAMES.—On June 18th, suddenly, Arthur William James, M.D., of Gloucester-terrace, W.

ROBERTS.—On June 17th, at Sevenoaks, John Francis Roberts, M.D., of Garston, Liverpool, aged 47.

SMALLWOOD.—On June 18th, at Little Waltham, Chelmsford, Robert Percy Smallwood, M.B., aged 64.

STORY.—On June 15th, at St. Thomas's Hospital, Arthur Gordon Story, M.B., of Oak Hill-avenue, N.W.

N.B.—A fee of 7s. 6d. is charged for the insertion of Notices of Births, Marriages, and Deaths.